ON THE FARM.

Chemical Safety with Mic Safety Mouse

Poison

Flammable

Explosive

Corrosive

Chemicals/Hazardous Products Safety Resource Package

compiled by
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Daysland and District Agricultural Society

BMO Bank of Montreal

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Foreword

The over-riding goal of the Kids' Farm Safety Program (KFSP) resource materials is to reduce and/or eliminate childhood farm-related injuries and fatalities. Our resources are suitable for use by community clubs, public library summer programs, out-of-school or after-school programs, and farm fairs. But our primary educative purpose would be best served embedded within Alberta Education's (K-6) Program of Studies, for use in (K-6) classrooms.

The KFSP materials fill inadvertent rural gaps in the existing Health and Life Skills curriculum modules (e.g. street, fire, personal, bicycle safety), by adding the missing farm safety component, and expanding existing learning outcomes to reflect rural realities for the children living in approximately 60 rural Alberta School Divisions. For example, the current strategies for walking home alone (W-K.7), Block Parent signs in the window (W-K.8), and calling out loudly, or asking the neighbour "next door" for help, are not useful rurally where the nearest neighbours may be several kilometers away. The rural child's safety support network (W-2.10), differs from that of a city or town child, as do some of the needed safety, health/life skills, and coping strategies, and the subsequent specific learning outcomes, such as demonstrating telephone skills (W-K.10); appropriate use of 911 (W-1.10); and accessing assistance (W-2.10). Note: both "L" and "W" outcomes throughout the KFSP materials are taken directly from the Alberta Education K-6 Health and Life Skills Program of Studies.

The isolation and increased vulnerability of rural children, combined with the incidence of injuries and fatalities, provided the motivation for developing these KFSP materials to address the curricular gaps and incongruities. KFSP Activity Sheet suggestions, such as posting pictorial *911 HELP* sheets (Appendix B) by *every* phone and repeating role-play scenarios, enable even very young children (prior to grade one, W-1.10) to master the 911 call procedures. Since rural emergency 911 calls have a much longer wait/response time, the rural child has to be prepared to wait (alone) longer, and be more resourceful and self reliant while waiting. KFSP activities encourage these skills. The suggested activities review, refine, and reinforce emergency call conduct, promote transfer of learning, and augment initial learning as the child matures.

KFSP Activity Sheets provide relevant links to daily life, using community contacts and resources along with cross-curricular links to Math, Language Arts, Science, Social Studies, Physical Education (Phys Ed.), and literacy links to additional readings. In accordance with the Alberta Health and Life Skills Program of Studies, KFSP activities enable youngsters to make "responsible and informed" choices regarding "health and safety for themselves and others". KFSP activities take into account cognitive, physical, and social developmental characteristics, bearing in mind that young children are naturally curious – exploring, touching, and even tasting the things they encounter. *Stop and Save a Life* (Consumer and Corporate Affairs Canada) corroborated this curiosity element by stating "every year thousands of poisoning [incidents] are reported to the Federal Poison Control Centre," with the majority of these cases involving young children. KFSP activities capitalize on this (potentially risky) curiosity by redirecting the children's energy into making responsible decisions in a low-risk environment. Youngsters are encouraged to make informed safe choices, while simultaneously developing and practicing interpersonal skills basic to healthy interactions (e.g. sharing, taking turns, helping others, etc.). Furthermore, children actively explore, develop, and apply concepts of responsibility and volunteerism (in school, at home, and in the community) that impact their lives in the future.

To help shape the still-to-come KFSP materials regarding safety around farm machinery, animals, and flowing grain, direct your feedback to: Box 127, Bawlf, AB. T0B 0J0 (or phone 780-373-2467).

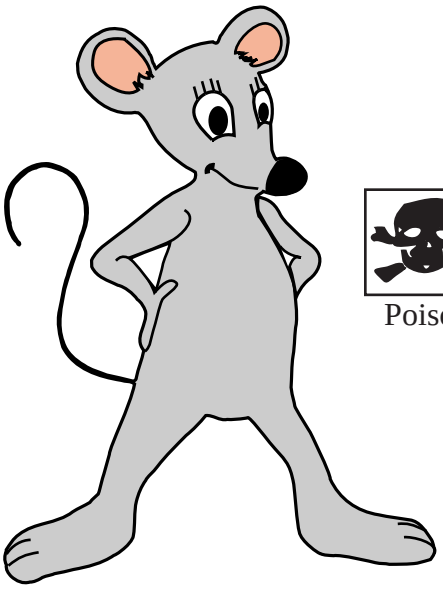
TABLE OF CONTENTS

This farm safety initiative was made possible by: funding and support from Monsanto Canada, BMO, and Daysland and District Agricultural Society; protective gear from United Farmers of Alberta (Camrose Farm Supply Store) and Crowfoot Agri Supplies (Daysland, AB); information, and statistics from Alberta Agriculture, its staff, and website; suggestions and input from many (especially Laura Higgins, Margaret Carlson, and Joanne Dawbin); and the tireless editing of A. Leithead.

FACT/RESOURCE SHEETS

ON THE FARM.

Chemical Safety with Mic Safety Mouse



Poison

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Fact/Resource Sheet # 1
Chemicals/Hazardous Products
Kids' Farm Safety Program (KFSP)

Injury and fatality statistics and information; KFSP format, goals and objectives

This KFSP Chemicals/Hazardous Products Resource Package provides a collection of chemical/hazardous product safety ideas, resources, and activities for use with children (K-6), and includes the following:

- Fact/Resource Sheets (#1-#5) consisting of adult-oriented information that can be adapted and shared with youngsters.
- Kids' Activity Sheets (#1-#4 that provide children's safety oriented activities to be used with adult guidance.
- Appendices (A-J) providing hazardous product safety resource materials, information, product contacts, and Mic Safety puppet patterns for use with the suggested activities.
- *On the Farm: Chemical Safety with Mic Safety Mouse,* a safety booklet for children to read independently or with an adult.

A TASK handout (*Teaching Agricultural Safety to Kids,* 1992, University of Missouri) predicted that "over two million poison exposures will occur in the US in the next 12 months," with the "majority of those exposures involv[ing] children under the age of six." It stated that "91 per cent of poison exposures" occur at home. *Keep Kids Safe on the Farm* (University of Saskatchewan Toxicology Centre) reported incidents involving farm children and chemicals, cleaners, pesticides, antifreeze, and poisonous gases.

Alberta Agriculture, Food and Rural Development (www.agric.gov.ab.ca/farmsafety) records farm-related injuries and fatalities, as reported to the Farm Accident Monitoring System (FAMS). Both incidence and agents are specified for the 1353 reported injuries (see chart below). This is a conservative number, in that only 58% of Alberta's hospitals reported injuries to FAMS in 2005. Children under seventeen years of age accounted for 14 per cent (or roughly 190) of all reported injuries, and for two (of 17) fatalities. (see Appendix A for fatalities since 1976.) According to the 2005 Summary, four percent (i.e. 51) of the total injuries were due to chemicals and hazardous products (up from the two percent reported in 1997). These include injuries from ingesting or being exposed to vaccines, battery acid, carbon monoxide, gasoline, alcoholic beverages, insecticides/pesticides, and anhydrous ammonia.

Summary of incidence and agents of injuries (2005)

Agents	Number of injuries
Fires	4
Chemicals	51
Tools	127
Machinery	300
Other (i.e. drowning, grain flow, etc.)	317
Livestock	554
Total	**1353**

Despite there being fewer chemical/hazardous product-related injuries than those incurred due to livestock, machinery, and tools, *On the Farm: Chemical Safety with Mic Safety Mouse*, is the first KFSP booklet to be published in our Mic Safety series because the funding for it was more readily available. The other booklets (as indicated on the inside cover) will follow as support for them materializes.

Fact/Resource Sheet #1 cont.

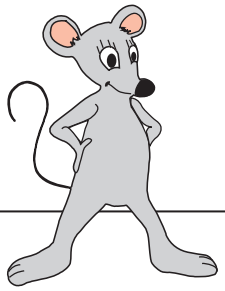
KFSP Goals and objectives supporting Health and Life Skills (K-6 Wellness/Learning i.e.W/L) Outcomes found in the Alberta Education Elementary Program of Studies, include the following:
• Recognize and understand the meanings and implications of the hazard symbols, and the signal words and frames (e.g. W-K.6 & 8; W-1.6).
• Know and follow the two-fold safety rule: Do not touch toxic substances, and tell an adult (e.g. W-K.6 & 7; W-1.6).
• Make informed choices about safety around toxic substances (e.g. W-K.6; W-1.6; W-2.6).
• Demonstrate the ability to make effective 911 calls for help if and when encountering chemical hazardous product injury and/or emergency (e.g. W-1.10; L-1.3; W-3.10; W-4.10; W-5.10; W-6.10)
• Be aware of the hazards of chemical and toxic products when they are encountered, and make appropriate decisions (e.g. W-2.10; W-3.10; L-3.3; L-4.3; L-5.3; L-6.3).

Youngsters' exposure to poisoning risks may be due in part to children's natural curiosity. This curiosity combined with the potentially harmful nature, the prevalence, and the major roles chemicals, pesticides, insecticides, and fertilizers have in agricultural activities, makes young children extremely vulnerable and subject to considerable risk(s). Our KFSP resource package provides preventative information and age-appropriate activities to reduce risk, prevent injuries, and enable young children (urban and rural) to make thoughtful, safe, responsible decisions.

The reason Mic Safety Mouse introduces children to procedures required of adults who handle and store hazardous/toxic substances is two-fold. Safety-conscious children tend to raise adults' safety awareness and compliance with safety rules, which, in turn, helps keep children from coming into contact with potentially hazardous products in their daily environment.

Adult Tasks

- storing pesticides and chemicals in their original containers, in a locked area.
- wearing personal protective gear to prevent contact and/or inhalation when handling chemicals.
- being mindful of where the discharge is dumped when rinsing chemical containers, so that children, well water, and the environment are not at risk.
- storing drained containers safely until they can be properly disposed of at landfill sites.
- applying chemicals with minimum drift, and posting and obeying warnings around treated areas.
- cleaning equipment and clothing thoroughly upon completing chemical applications.
- changing clothes and washing hands with soap and hot water before smoking, eating, and drinking.



Mic adds that children need to save their hugs for adults who have been working with toxic substances until after the adults have had a shower and changed their clothes.

Fact/Resource Sheet #1 cont.

Because of their innate curiosity, it is vital that children learn to recognize the four hazard symbols, know what they mean, and understand why they should not touch products bearing these symbols.


Poison


Explosive


Corrosive


Flammable

Poison……The skull and crossbones warn that the substance is poisonous, and can cause illness or death (e.g. cleaning fluids, pesticides, etc.).

Explosive…...This symbol means the substance can explode and/or cause noxious fumes. It must be kept away from heat, sparks, and open flames. Smoking is not allowed around explosive substances (e.g. insect sprays, cleaners, etc.).

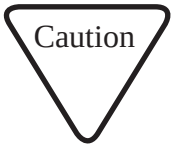
Corrosive…...The corroded hand symbol means that the substance can irritate, burn, or destroy skin tissue and eyes (e.g. battery acid, bleach, cleaners, etc.).

Flammable…The fire symbol means the substance burns or is easily ignited. It must be kept away from heat, sparks, and open flames. Smoking is not allowed around flammable substances (e.g. fuels, barbecue fluid, paint thinners, etc.).

Children also need to know the three signal words (danger, warning, caution) and their accompanying frames (hexagon, diamond, triangle), as well as understanding what these mean when they are used in connection with chemical and hazardous products.

HIGH HAZARD
(adults need respirator/ all gear, apron)

Moderate Hazard
(need all gear)



Low Hazard
(need gloves and boots,)

The poison symbol within the three frames below would mean different hazard levels.

Danger

Danger Poison

Warning

Warning Poison

Caution

Caution Poison

Children need to realize that the hexagon "stop" sign means the substance is *highly* dangerous, and can cause death. And toxic substance levels that may cause illness in an adult can be lethal for a child, because the smaller the body, the higher the level of toxicity.

Note: Health Canada (*Stay Safe*) claims that, since 2001, only two frames are used. However, household and agri-related products, and Alberta Agriculture's 2006 *Crop Protection* manual still use three signal frames. Furthermore, children need know/understand the danger levels of all three because imported product labels may not comply with Health Canada's two-frame system, and product containers that the children encounter may predate 2001.

Developmentally appropriate, hands-on approach

The North American Guidelines for Children's Agricultural Tasks (NAGCAT, 2001, available at no cost either online www.nagcat.com or from Alberta Agriculture 1-780-427-4187) focus on matching youngsters' physical and mental capabilities with the skills needed to complete various agri-related tasks. NAGGAT helps adults assign developmentally appropriate responsibilities and/or farm chores to any particular child, with a minimum of risk, thereby reducing the likelihood of injury.

University of Minnesota Fact Sheet (AG-FS-6188-A, 1993) includes the developmental stages of young children, some typical risks they encounter at each stage, and appropriate preventative and/or protective measures. The chart describes early school-age youngsters (5-9 years of age) as: inconsistent in their use of logic; wanting adult approval; wishing to appear competent; and being unaware of realistic dangers (e.g. more fearful of kidnapping or war than of a "likely farm injury"). This Fact Sheet suggests three preventative measures for the risks encountered:
1. consistent rules – which for toxic substances are, *don't touch them* and *tell an adult*.
2. discussion of safe behaviours on the farm site, and setting the parameters of safe play areas.
3. assignment of simple developmentally appropriate farm chores, with careful adult supervision.

Young children's attention spans are relatively short, and puppets can readily capture children's attention, to introduce rules and discuss safe behaviours and appropriate farm chores. The activity centers designated on the floor plan, and our suggested Kids' Activities, incorporate farm and the Mic Safety Mouse puppets to engage children in learning and reviewing safety concepts. Children learn best when using concrete materials because they have not yet acquired and honed abstract thinking skills. They are still sense-oriented and curious, and more competent in activities that stimulate sight, hearing, smell, touch, and taste. Puppets often provide more hands-on learning than books or lectures.

Puppets were a major part of long-time educator and puppeteer Marshall Wynnychuk's life since childhood, when he received a plaster-of-paris puppet named Monko. Wynnychuk's educational series for children, aired on CBC television between 1966-1972, was recognized by the Puppeteers of America as the "first educational TV show in Canada to use a puppet." Jim Hensen, the legendary Sesame Street puppeteer, upon meeting Wynnychuk, said "Your puppets are doers, and mine are real yappers!"

Wynnychuk explains how he fused puppetry with learning in his teaching career. He used puppets "to teach subject material," having students make the puppets, write the scripts and perform the plays, "which encompassed everything from stories out of their readers, to the Canadian explorers [they] were studying." He says he "was amazed at the effect the puppets had on the students, especially the problem students," that their "knowledge retention improved dramatically." Teachers and parents involved in our KFSP activities have likewise related incidents verifying knowledge retention, that indicate young children can remember, cite, and apply Mic's safety rules. Overall, Wynnychuk claims, "the children worked harder for them [the puppets] than they ever would have for me." (University of Alberta Alumni magazine, *The Orange*, 2006, volume 8 #2, p. 5).

Fact/Resource Sheet #2 cont.

Hands-on approach cont.

Our Mic Safety Mouse puppet patterns (Appendix H) enable children to create their own Mic puppets, and when the children use their puppets they demonstrate what they have learned, and safety concepts are reinforced. The Mic Safety activities are guidelines and suggestions, intended as "idea starters" meant to stimulate and create safety programming that is based on the participating children's skills and abilities. Obviously it is unreasonable to expect that simply carrying out a set of activities guarantees immunity to danger and/or injury, or serves as a one-time (safety) immunization from toxic substances. The suggested safety activities and the Mic Safety puppets provide repeated reinforcement at school, at home, and throughout the community at harvest festivals, public library programs, rural fairs, and provincial farm safety week – but even then there are no guarantees.

The centres, as well as the activities depicted in the sample floor plan and the photos which follow, are hands-on and play-based, with numerous opportunities for role-play and puppetry. The supervising teachers/leaders/parents model safe behaviour, and insure that the activities are developmentally appropriate by adapting and modifying the suggested KFSP activities to suit the participating children's interests and abilities (cognitive, physical, emotional, and social), and by making certain the safety messages are repeated again and again. Once is NOT enough.

Our KFSP centre-based activities have been used with children ranging from pre-school through grade school, with adults participating in the activities at each centre. There are phones with *911 HELP* instructions in each centre, so that the children acquire and practice skills they need when calling for help in a variety of situations in a real emergency.

The following photos feature children completely absorbed in safety-related activities in a low risk environment. The skills mastered here are readily transferred to situations at home when they need to make informed responsible choices for their own safety and the safety of those around them (e.g. calling 911; wearing seat belts and practicing the "no rider" rules; wearing riding helmets; protecting their hearing). Grain-flow demonstrations, chemical/hazardous product safety recognition and awareness, Alberta Agriculture's "*Lost on the Farm*" CD ROM, puppets, puzzles, and felt boards help to reinforce the safety concepts being learned.

Fact/Resource Sheet #2 cont.

FLOOR PLAN

(Suggested minimum space approximately 13 x 9 meters)

playhouse farm area: ride-on truck and tractors, stick horses, helmets, etc. chemical shed, gloves, masks, goggles, plastic aprons, boots, etc.	manipulatives activity sheets farm animals and toys blocks stumps, goggles, hammers	easels, paint aprons, brushes, paint(s) bucket of water, paper towels cut and paste table, variety of paper (for Mic puppets), crayons, markers, scissors play dough, farm animal cutters
Games: Lid-toss *BE SAFE* Bingo card games (Memory, Snap, Lotto) Bottle Bowling	floor puzzles felt and/or magnetic boards	puppets and books computers VCR (VCR can be used for whole group instruction and review.)

Fact/Resource Sheet #2 cont.

Hands-on Approach in toxic substance-related centre activities

Centres	Equipment (see specific Activity Sheets for details)	Focus and outcomes
Farm area (chemical shed, fuel tanks, fields/ plants)	chemical shed with door (made out of a wardrobe box), clean jugs, sprayers, buckets, fuel barrels (rolled up card board), trees/plants, ride-ons, protective gear (boots, gloves, goggles, masks, aprons, disposable coveralls, etc.).	Demonstrate understanding of absorption (through dramatic play) using protective gear, and spraying activities. Follow safety procedures during activities (e.g. obstacle course). Mastery of 911 call.
Manipulatives	phones, *911 HELP* Sheets, gloves, misc. protective materials (plastic bags, rags), jugs with hazard labels on them. For equipment for *Look-alike* Activity 6 see Activity Sheet #4 (p. 23).	Recognize hazard symbols. Demonstrate reasons for avoiding hazardous products. Demonstrate proper 911 calling procedures (e.g. protecting hands when handling chemical container).
Paint	easels and/or tables, paints; various sized brushes; variety of paper; face paints.	Demonstrate recognition and understanding of hazard symbols and chemical safety (evident in paintings, pictures, etc).
Cut and paste	tables, scissors, glue, variety of paper, cardboard, old decks of cards, jugs, hazard stickers/stamps, collage materials, colouring pages, puzzle-making materials, etc.	Show understanding of chemical safety, evident in posters, signs, collages, card games, dioramas, puzzles, puppets, and recognition of dangerous products.
Games: Lid-toss *BE SAFE* Bingo Card games Bottle Bowling	*911 HELP* Sheets (Appendix B), toy phones. See equipment lists; buckets, lids, protective gear; bingo markers and cards (Appendix E); decks of cards (Appendices C & D); soft balls and plastic bowling bottles.	Recognize and understand the meaning of the hazard symbols, while playing the games. Make cross-curricular links (see Math, Phys Ed, Language Arts, Social Studies, Science links).
Puzzles	pictures of safe and hazardous products to make into puzzles.	Remember/reinforce chemical-related safety concepts while creating/working with puzzles.
Magnetic and/or felt boards	felt and/or magnetic board(s); chemical-related safety magnetic and/ or felt story pieces	Demonstrate understanding and implications of toxic substance safety while story-telling.
Puppets, books, computers, and VCR	Mic Safety and City Mouse puppets, people and farm puppets and props; farm-related books; hazard product stickers (Appendix G); Phones and *911 HELP* Sheet (Appendix B); *Lost on the Farm* (AB Ag. CD ROM); *Ready for Safety* (John Deere Video).	Demonstrate understanding of safety around chemicals through puppet play, story-telling, and/or drama. Demonstrate proper procedures for calling 911 in hazardous product emergencies. Review chemical safety concepts.

Developmentally appropriate, hands-on approach cont.

The Mic Safety Mouse puppet introduces the children to various centres by taking them on a farm tour (just like the one Mic gave City Mouse in the story). Before beginning any hands-on activities, Mic walks the youngsters past the centres while explaining the activities and rules for each particular centre. Mic also explains that they will rotate at a given signal, so each child experiences every centre, and demonstrates by squeaking or singing a sample "rotate" message.

After the tour with Mic, children proceed to the centres, in small groups (five per group is manageable), each of which is supervised by an adult. Adjust the time spent in each centre to fit the attention spans and interests of the participating children. Small groups ensure that each child "gets a turn" before moving to the next station. If time permits, after everyone has rotated through all the centres, the children can be given *free* choice so they can revisit an area of interest. When possible, allow flexibility and choices so children can plan/develop, direct, or expand their own safety-related activities. Mic can help redirect, or give gentle reminders, if a child ends up being "off task."

Optimize adult/parent and agri-business involvement because it encourages reinforcement of safety messages, and increases safety awareness at home and in the community, thus reducing the likelihood of toxic substance injuries and fatalities. Parental involvement, especially during assessment processes, indirectly reviews and reinforces the safety concepts for the parents as well.

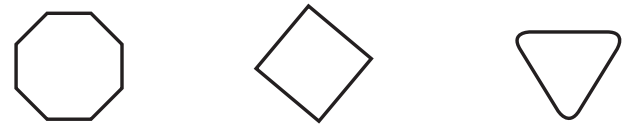
Setting goals and objectives, assessing the safety activities, plus using pre- and post-tests when possible, provides valuable program feedback. The sample hazardous substance assessment form below supplements the observable learnings that children demonstrate. Test results can help indicate what youngsters absorb for transfer to their home life. Adjust the form for pre-readers, by reading the questions to them and having them respond orally and/or demonstrate their answers. Expect the answers of older children to be more complete and have more details than those of the younger ones.

Sample pre/post assessment form

1. What do these symbols mean?

_____ _____ _____ _____

2. What do these signal frames mean



_____ _____ _____

3. You see kids playing near a spilled, broken, or punctured chemical jug. What do you do?

4. You see a child holding an empty container with a hazard symbol on it. What do you do?

5. Explain and show me *exactly* how you would call 911 for help if you had an emergency involving a hazardous product.

Fact/Resource Sheet #2 Cont.

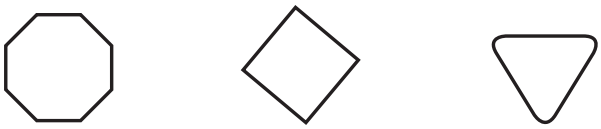
Teacher copy

Sample Pre/Post Assessment Form

1. What do these symbols mean?

Answers: poison flammable explosive corrosive

2. What do these signal frames mean?



Answers: danger warning caution

3. You see kids playing near a spilled, broken, or punctured chemical jug. What do you do?

Answer: Make sure the children leave that area, and go wash their hands with soap and warm water. Tell an adult immediately. OR if no adult is available, call 911.

4. You see a child holding an empty container that has a hazard symbol on it. What do you do?

Answer: Protect my hands (with a plastic bag, wadded up jacket, or rag), and take the jug from the child. Tell an adult immediately. OR if no adult is available, wash my and the child's hands (and the child's mouth if the jug was in his/her mouth) with warm water and soap. And call 911 immediately.

5. Explain and show me *exactly* how you would call 911 for help if you had an emergency involving a hazardous product.

Answer: Have the child *demonstrate* the *proper* procedure. The answer should indicate: If touching or carrying the container to the phone, I protect my hand from contact (using a glove, plastic bag, wadded up jacket, rag, etc.). Dial 911, and (using visual cues on the *911 HELP* sheet in Appendix B) give the operator my phone number, the name of who owns the farm, and the address/land location, state what happened, to whom, where on the farm site (e.g. right beside the fuel tanks), what hazardous product is involved (i.e. the name of the product, or at least the symbol on the jug), AND STAY ON THE PHONE until help arrives.

Mic says,
"Stay on the phone until help arrives."

Emergency 911 call procedures

Children need to know that if they encounter situations involving toxic substances, they must immediately report the emergency to an adult. If no adult is available, the child should call 911, stay on the phone and follow the instructions of the 911 personnel, until the emergency vehicle arrives. The KFSP *911 HELP* Sheet (see Appendix B) is designed to be of use to even very young children, in that illustrations above the vital information blanks serve as visual cues or prompts. If the child making the call needs to call a parent/neighbour, the 911 operator should be asked to make the call, so that the child can **stay on the phone until help arrives.**

Having a completed KFSP *911 HELP* Sheet attached to (or beside) **every** farm phone (shrinking it to fit the cell phones), makes it much easier for a child to call 911, and will facilitate the emergency crew in finding the emergency scene. The visuals cue the child to give the landowner's name and the legal land description, so if a child can read numbers and letters, (s)he can give the needed information. The child also needs to say who the victim is and describe the nature of the emergency. When toxic substances are involved, it helps if the child can name the hazardous product involved, or at least indicate which hazard label is on the product.

The child calling for help needs to remember to protect his/her hands if touching the substance, the container, and/or taking it to the phone. This protection can take the form of a glove, a plastic bag, a wadded-up jacket or rag, anything that is on hand at the scene of the accident. This protection is vital in preventing contamination of the caller and/or the phone. Without this protection, the caller's hands and ears are at risk. Ear canal absorption is 5.4 compared to 1.3 in the palm (see Fact Sheet #4). Children, therefore, need to practice this precaution when role-playing/practicing 911 calls. To encourage adherence to these safety procedures at home and in the community, involve parents and the community at large. Using Poison Centre pamphlets (some listed below) as send-home materials helps to reinforce the safety message at home.

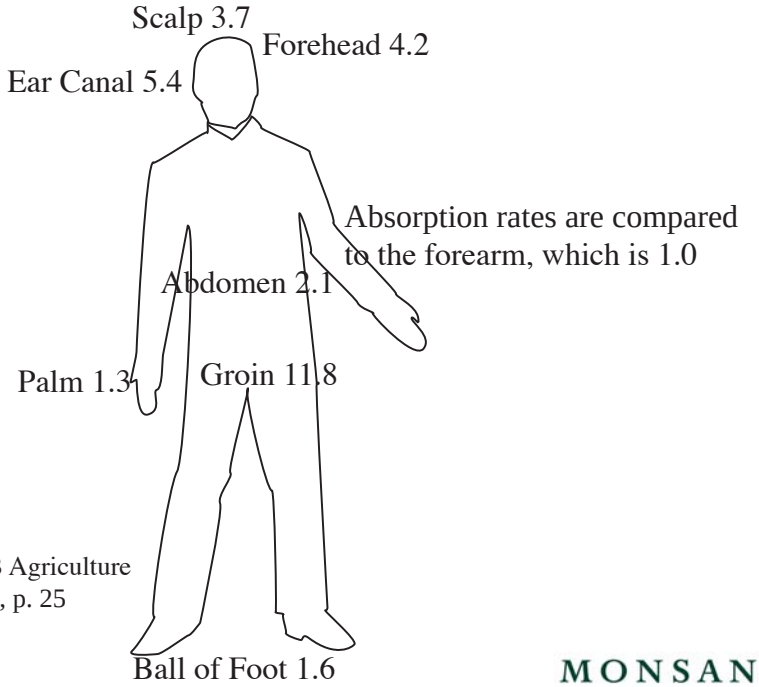
Additional resources:

• *The Elementary Safety Book for Children* (1-800-753-0193; www.regionalmapleleaf.com)
• Colouring books, pamphlets (*Are there poisons in your home?* and *Poisoning: Do you know what to do?*), and magnets are available from the Alberta Poison Centre (1-800-332-1414).
• The Institute of Agricultural Rural and Environmental Health at the University of Saskatchewan (1-306-966-8286; www.iareh.usask.ca) has chemical and hazardous product resources, which can be sent home for parental use, or modified for use with children (e.g. *Safe Handling of Agrochemicals, a Module for Farm Families; Farmer's Guide to Pesticide Label Interpretation*). The illustrated *Farmer's Guide* indicates the protective gear adults must wear when handling products displaying those symbols, which reinforces that children are not to touch products displaying those symbols.
• St. John Ambulance *First Aid on the Farm* course (1-800-665-7114; www.stjohn.ab.ca).
• Be aware that "Stay Safe," a free Health Canada resource (www.hc-sc.gc.ca; Consumer Product Safety, 780-495-3934) uses only two hazard symbol frames, and with changed interpretations. We, however, retain the three frames in our resources because of their continued use in the literature and on both Canadian and imported household and agri-related product labels. Children also still encounter three frames on containers predating 2001, and therefore, must recognize and understand the danger levels of all three hazard symbol frames.

Fact/Resource Sheet #4
Chemicals/Hazardous Products
Kids' Farm Safety Program (KFSP)

Absorption rates, prevention, and protective gear

Mic's basic two-fold rule: *Do not touch* and ***go tell an adult.***
Once young children can recognize the hazard symbols, they need to follow the same basic rule that applies to finding cigarette lighters and/or matches. If youngsters encounter containers marked with the hazard symbols at "kid level," or see spills from such containers, they should stay away from those substances (because at times even smelling toxic substances can be harmful), and immediately go tell an adult. Only adults wearing protective gear should handle and/or clean up chemicals and hazardous products. However, to make the "do not touch; go tell an adult" safety rule more meaningful, children must understand how these substances can enter the body. Kids' Activity Sheet (#4) provides activities that demonstrate how absorption occurs. There are at least four ways:
1. By inhaling airborne particles (fumes, dusts, mist, drifting spray). Respirator use is recommended when adults are opening, mixing, and/or applying pesticides.
2. Through the eyes. This happens when rubbing the eyes with contaminated hands, by getting splashed in the face, or being too close when a field is being sprayed. Eyes are very sensitive to airborne particles, so adults must wear goggles. Contact lenses should not be worn while mixing or applying chemicals. To prevent accidentally getting chemicals in their eyes, children must stay away from fields that are being sprayed, and avoid all areas where adults are working with chemicals.
3. By mouth, either when licking lips, putting contaminated hands to the mouth when eating or smoking, or actually ingesting/tasting/swallowing a toxic substance.
4. Through skin contact. This can occur when touching parts of the body, or other people, after one has handled chemicals, hazardous product containers without gloves, or entered areas that have been recently sprayed.Note that absorption rates are highest in the lap or groin areas (11.8), followed by the ear (5.4), forehead (4.2), and scalp (3.7). Second-hand contamination can occur if children come in contact with adults who have had contact with hazardous products, or if contaminated clothing is washed with the family laundry. Even when not absorbed, pesticides and other hazardous products can cause the skin to become red, blistered, dry, or scaly.



Source:
"Crop Protection", (2006) AB Agriculture Food and Rural Development, p. 25

Fact/Resource Sheet #4 cont.

Suggestions to help prevent childhood chemical-related injuries

1. Teach young children to recognize the hazardous product symbols. According to *Keep Kids Safe on Farms* (Saskatchewan Labour, Toxicology Centre, University of Saskatchewan), one of the first things that young children need to learn about safety around chemicals is "to recognize the poison symbol and learn to keep away from containers that display this symbol."

2. Help children understand *why* they should never touch substances bearing hazardous product labels, because the toxins can enter their bodies through inhalation, skin and eye contact, and ingestion.

3. Even though chemicals and hazardous products should be locked away, it is important to teach youngsters to "tell an adult," when/if they find containers bearing the hazard symbols at "kid level," or substances spilling from such containers (just as they must do when finding matches or cigarette lighters).

4. It is vital that adults model safety behaviour by wearing proper protective gear when handling chemicals and hazardous products. As a teacher, parent, or group leader, it is important to model and teach these preventive practices, and to encourage other rural adults to do likewise.

Fact/Resource Sheet #4 cont.

Injury prevention suggestions cont.

5. Repeat these safety instructions often, in a variety of ways, and review them regularly. Safety education is not a "one-shot" immunization needle. Hands-on, interactive explanations, demonstrations, activities, books, and stories using the Mic Safety puppets, can refresh children's memories and reinforce safety messages, so that the children internalize the concepts.

6. Young children understand and remember more if they are doing, touching, and seeing while they learn. It is important to provide children with safe, supervised opportunities involving relevant farm toys and no-risk activities that allow them to practice what they are learning. Safety concepts are internalized during role-play. Since young children are still concrete thinkers, hands-on activities help them make sense of what they learn. These activities, however, need to be risk-free so that children are not exposed to the actual hazardous substances. The Activity Sheets in this KFSP package provide numerous such activities, which create a foundation for the processing and understanding of more abstract safety concepts as the youngsters mature.

Just as a farmer getting ready to spray his crops wears protective gear (protective face shield with plastic straps, rubber gloves, rubber boots, apron or coveralls), youngsters, likewise, get togged up prior to role-play of similar activities.

Children practice making informed responsible choices for their own safety and the safety of those around them, as they become completely absorbed in safety-related activities in a low risk environment.

Hantavirus warning

KFSP activities use the Mic Safety Mouse and City Mouse puppets to help teach children about farm safety. But children need to understand that *real* mice can carry disease. During the past 12 years, there have been 25 reported cases of hantavirus in Alberta, and deer mice test results (2005) in rural East Central Alberta (around Hobbema, Lacombe, Ponoka and Wetaskiwin) showed up to 50 per cent of the tested mice were infected with hantavirus (*High rates of hantavirus found in Central Alberta,* Camrose Booster, July 5/05). Throughout Canada, 16 of the 41 reported cases have resulted in death.

Children must tell an adult if they see any evidence of mice, such as mouse tracks, nests, or droppings. The virus is found in deer mouse droppings, their urine, and saliva. Deer mice (see photo, p. 25 in Mic Safety booklet) live in fields, bushes, haystacks, machinery, sheds, barns, garages, and houses. The deer mouse is a brownish colour (which varies with age), with a white belly and white feet. Its tail is distinctive in that it is dark on top and white on the underside.

Only an adult wearing protective gear should clean up mouse nests and droppings. To prevent inhalation of the virus, respiratory protection (such as HEPA filters or NIOSH masks beginning with the digits TC-21C) is mandatory. Rubber gloves and goggles are needed, while dampening the area with a disinfectant solution (1:9 dilution of household bleach). The refuse should sit for about ten minutes before being double-bagged, and disposed of as garbage. The floor should be wet mopped to eliminate dust. Any contaminated garments need to be laundered separately (or disposed of), goggles and boots disinfected, and gloves disinfected before being removed. Hands and exposed skin must be washed thoroughly with soap and hot water.

A person inhaling dust containing hantavirus particles can become very ill. Symptoms may include flu-like fever, headache, cough, muscle pains, stomach pain or nausea, "followed by shortness of breath and a dry cough." If these symptoms occur within one to five weeks following contact with mouse droppings or a nest, the person should see a doctor. However, if shortness of breath suddenly occurs, and/or rapidly worsens, immediate medical attention is required. If a child sees an adult with these symptoms, the child should call 911 immediately.

Additional Resources:

• For information on hantavirus, visit East Central Public Health (www.ech.ab.ca) and type hantavirus into the search engine.
• *Quick Guide to dealing with Hantavirus, clean-up procedures and protective measures* is available from Farm Safety Association Inc. (1-800-361-8855).
• To access *Hantavirus disease guidelines for protecting workers and the public* go to the Saskatchewan Labour website (www.gov.sk.ca) and type in a search for hantavirus in Online Services.
• Mouse puppets (as well as an excellent selection of farm animal puppets) are available from Baby Love in Camrose, Alberta (1-780-672-1763; www.kidalog.com), and Mic Safety Mouse puppet patterns are found in Appendix H.

KIDS' ACTIVITY SHEETS

ON THE FARM.

Chemical Safety with Mic Safety Mouse

Poison

Flammable

Explosive

Corrosive

Kids' Activity Sheet #1

Hazard symbol recognition games

Note: Just as a child putting on a fire helmet or police hat during role play does not imply that (s)he is capable of handling a real hose, a gun, or police duties, a child donning protective gear, during any of the PFSP activities, does not in any way imply that (s)he can handle chemicals like an adult farmer. It does, however, reinforce the idea that adults must wear protective gear when handling chemicals.

1. Lid-toss game

Focus: to learn to recognize the hazard symbols, so children make safe, responsible choices to avoid chemicals and hazardous products.

to reinforce that *only adults* wearing protective gear should handle hazardous substances.

You will need	**Set up:**
Six ice cream buckets (for two players or two teams).	Put four hazard symbols (Appendix C) on buckets placed in a row.
Numerous lids in two colours (so players/teams have different colours).	Label two sets (different colours) of lids with the four hazard symbols. Place lids of one colour in bucket #5 and the others in bucket #6. Place these buckets 1.5 metres from the buckets with the hazard symbols.
A pair of rubber or latex gloves for each player; at least two pairs of goggles.	Place the gloves, goggles, aprons, and masks beside buckets #5 and #6.
Plastic aprons (big garbage bags can be made into aprons).	
Disposable dust masks for each child; black marker; face paints.	Use black marker to write NIOSH on the masks. **Note:** Explain that the "NIOSH" on the dust masks reminds children (and adults) that facemasks must bear NIOSH approval to be effective.

If working with a large group, add more buckets and lids as needed, and create more teams to shorten waiting time. One way of designating teams is to have the children use face paints to draw hazard symbols and/or word frames (i.e. hexagon=danger; diamond=warning; triangle= caution) on their hands or arms. Older children may enjoy timing their activity, or racing to see who can get the most points most quickly in *x* minutes.

Kids' Activity Sheet #1 cont.

Hazard symbol recognition games

Procedure (for lid-toss game)**:**
• Children (two at a time) assume adult farmer role by putting on gloves, masks, and aprons before touching or sorting any of the chemicals (i.e. tossing lids into their buckets).
• The children stand behind the 1.5 metre line (adjust distance to children's throwing abilities), and try to toss the marked lids into the matching hazard symbol buckets.

Links to curriculum and/or to life:
Health and Life Skills
The lid toss game teaches children to identify hazardous product symbols, and understand the potential risks of contact with chemicals and toxic substances bearing those symbols. This knowledge equips children to "make responsible and informed choices to maintain health, and to promote safety for self and others" (Alberta Health and Life Skills, K-6 Program of Studies).

Phys. Ed.
The lid toss game promotes physical coordination, and hones hand-eye coordination, throwing skills, aiming, and judging distances, all of which transfer to other sports activities.

Social Studies
The learning aspects of dramatic play and the KFSP activities are similar to the fire and street safety learning, and the understanding of community workers that occurs when young children play fireman and policeman, do fire drills, and/or practice safe street-crossing and bike-riding behaviours.

Math
Basic math skills are used when recognizing, identifying, and matching the signal word frames (hexagon, diamond, triangle) and hazard symbols. To practice more advanced math skills, write numbers on one side of the lids, so that the children can "keep score" by adding up the totals from the lids thrown into the proper buckets.

Kids' Activity Sheet #1 cont.

Hazard symbols recognition games

2. Card games

Focus: to learn to recognize and understand the chemical and hazardous product symbols and the signal words/frames, so that the children can avoid contact with products bearing those symbols.

You will need:	Set up:
Old decks of playing cards or card stock.	Make and lay out the game cards (Appendices C & D) featuring hazardous symbols, words, and shapes, as described below, so children can use them to play *Snap*, *Memory,* and *Lotto* card games.
Puppets and props.	Set out Mic puppets plus a variety of farm puppets and props.

Procedure:

• In order to play these card games, either turn old decks of cards into chemical safety cards, OR have the children help create the cards for the games by gluing two identical hazard symbols or pictures (see Appendices C and D) onto pairs of cards.

• To play *Snap,* the players take turns picking up one card from the shuffled deck, and placing it face up on the table in front of them. When a matching card is turned up, the first player to call "Snap" wins the pair of cards. The player with the most pairs wins.

• To play *Memory*, deal six to eight cards face down. Leave the rest in a pile face down. Players take turns picking up one card from the pile and turning up one other card to see if they match. If they do, the player keeps that set. If the cards don't match, the card is turned back face down, and the card from the pile is placed at the bottom of the pile. The player collecting the most pairs wins.

• *Lotto* games vary, but children take turns placing matching cards from a shuffled deck onto their Lotto master sheets (see Appendix D). The first one to cover the whole master sheet wins. Make enough different master sheets and decks of cards to accommodate the size of the group.

• The "SAFE" card is a wild card, and can be used to match any space on the Lotto sheet, or any other card in the card games.

• The puppets can help explain and reinforce rules, ask to play cards too, and help encourage turn-taking and other group and social skills needed for harmonious group work. They can help count the number of pairs or points, to see who is winning the game.

• Bonus: Although the player collecting the most pairs wins, everyone is really a winner if (s)he is learning to recognize the hazard symbols.

Links to curriculum and/or life:

Health and life skills

Card games and interactive puppet play promote recognition and understanding of the hazard product symbols, thereby reinforcing chemical-related safety concepts.

Language Arts

Card games and puppet play increase vocabulary and encourage communication. The activities build social/group interaction skills such as winning/losing and turn taking, while reinforcing chemical-related safety concepts.

Math

These card games use symbol recognition and matching skills. If points are assigned for the number of pairs collected, basic addition skills are used to determine the winner.

Kids' Activity Sheet #1 cont.

Hazard symbols recognition games

3. *BE SAFE* bingo

Focus: to become familiar with the three signal words (caution, warning, danger), and the accompanying *frames*, as well as the hazardous product symbols.

You will need:	Set up:
Numerous chemical *BE SAFE* bingo cards (Appendix E).	Provide a different bingo card for each player.
Bingo markers, wax crayons, or small tokens to cover the spaces on the cards.	Create/acquire and distribute bingo markers (Appendix E).
A master sheet for the caller (Appendix E).	Demonstrate *calling* before having children do it.

Hint: If bingo cards are laminated, wax crayons can be used as markers, and the cards can be wiped and reused.
Note: Younger children will not be able to be callers; assign callers as per age and ability.

Procedure:

- Make enough *BE SAFE* bingo cards to accommodate the size of your group.
- Each child has one card, and searches for the symbol/number that is called out under the column specified. The game is played like normal bingo, except the card column headings are *SAFE* (instead of *BINGO*). For example, the caller could call out, "Under the S, danger poison." Or, if using the optional card featuring numbers (see Appendix E), the caller could say, "Under danger poison, 8." When a child has covered all the spaces diagonally, horizontally, or vertically, that child calls out *SAFE* or *BE SAFE*, and the caller verifies which spaces the winner has covered.

Links to curriculum and/or to life:

Health and life skills:

Children learn to recognize and understand meanings and implications of the hazardous symbols, words, and frames, while practicing social and group interaction skills.

Language Arts

Children build their vocabularies, and practice listening, viewing, reading, and speaking.

Math

Children practice matching skills, and symbol and number recognition.

Kids' Activity Sheet #1 cont.

Hazard symbols recognition games

4. Bottle bowling game
Focus: to learn to recognize the hazard symbols, shapes, and frames, which will in turn enable children to make safe responsible choices in avoiding chemicals and hazardous products.

You will need:	**Set up:**
Either five or 10 plastic bottles (per bowling lane) with different hazard symbols on them; numbers on each bottle.	Place marked bottles a suitable distance from a masking tape line on the floor (depending on the children's skills/abilities).
Soft balls (six per lane) that will knock over the bowling bottles… and someone (wearing protective gear) to reset bottles and retrieve the balls.	Place the balls in a bucket behind the tape line (adjust distance according to ages/ abilities of participants).
To decide how long the game will be.	Make game length clear *before* beginning – either your choice, or a collaborative decision (e.g. four turns each, or the first one/team to earn 20 points; etc.).

Procedure:
Caution: use only plastic bottles; glass ones can break and present a hazard. (Hint: If the plastic bottles need a bit of weight, place a few pebbles in them and screw on the lids.)
• Have children stand behind the tape line, and throw three balls each to try to knock down the plastic bottle designated by the child next in line (e.g. the second person in line would say "danger poison" and the first person with the ball would aim at that specific bottle). Adapt or simplify procedures/rules for younger children.
• Make up scorecards (Appendix F) ahead of time, and have youngsters record and tally how many points they earn while knocking down the bottles.
• Depending on the space available, set up several *lanes* to reduce the length of time children have to wait in line (waiting is unproductive, and can lead to disturbances).

Links to curriculum and/or life:
Health and Life Skills
Recognizing and understanding the implications of hazard symbols, words, and shapes enables children to make "responsible and informed choices" regarding chemical safety. This game also provides practice of group skills such as waiting your turn, and handling winning and losing.

Language Arts
Children listen to, and follow, instructions from their teammates, and practice communication skills while playing this game.

Phys Ed
Aiming and throwing improves eye-hand coordination, which transfers to other sports activities.

Math
Recognizing symbols and shapes, and recording and adding up the points earned, all utilize math skills.

Kids' Activity Sheet #1 cont.

Hazard symbols recognition games

Game follow-up and extension activities (adapt to level of children's abilities)**:**
1. While wearing gloves, examine and discuss the ingredients listed on various cleaning products (under the sink, in the garage, around the farm site). Note how they are hazardous and why.

2. Make a list of how chemicals and hazardous products are used in our daily lives, adding pictures if possible (e.g. products that: provide fuel for tractors and other machinery; prevent weeds from growing; get rid of/control bugs, insects, and diseases that harm crop growth; increase the yield in gardens and fields; improve the size, weight, colour of produce or crop; clean the house, car, garage, or equipment). Children can independently find additional pictures of products (in agricultural magazines, papers, and sale flyers) for each category in the list, thereby reinforcing recognition of, and the need to avoid contact with, those products.

3. Build a collection of hazardous product labels, and/or empty (clean, sealed) containers of items on your list ("clean" means rinsed and washed with hot soapy water; seal containers with a hot glue gun). Or have the children identify and list the hazardous products around their homes and farms.

4. Find, list and discuss additional products that may be hazardous, but aren't marked with hazard symbols (e.g. *Hartz 2 in 1 Flea and Tick Killer*; ant killer; flea collars; electric motor oil; citronella candle fluid; and cleaners which state, "keep away from children", "harmful or fatal if swallowed," or "if swallowed call physician immediately"). Help the children write letters to manufacturers of such products, asking them to place hazard symbols on their products, so that young children can recognize them as dangerous.

5. Encourage parents to help their children identify any toxic substances around the home/farm, understand what the symbols mean, place hazardous product stickers on them, and stay away from those products and sites. Stickers can be made by photocopying Appendix G onto an Avery 5160/8150 (Address Labels 2.5/8' x 1") page of labels.

6. Repeatedly play the chemical-related Snap, Memory, Lotto, Bingo, and Bowling games to review and reinforce recognition and understanding of the hazard symbols, frames, and words.

Kids' Activity Sheet #2

Hazard symbols application activities

1. Mic's maze – find a safe place to play!

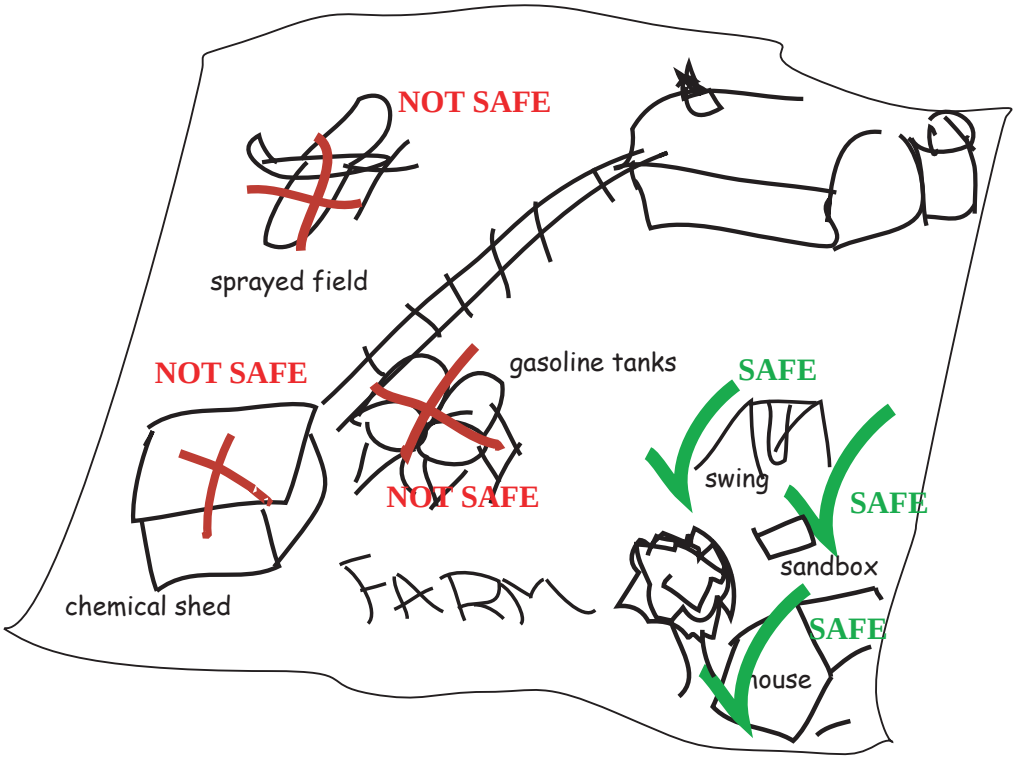
Focus: to identify safe and unsafe places to play.

Help Mic Safety Mouse and City Mouse find safe places to play. Colour those safe places so that they will be easy for them to find.

Kids' Activity Sheet #2

Hazard symbols application activities

2. Mapping the children's farms
Focus: to introduce the concepts of safe and unsafe play spaces, so that children can make informed (developmentally appropriate) choices about where to play on their own farms. (Adapt the following KFSP mapping activities to the youngsters' abilities, skills, and aptitudes.)



You will need:	Set up:
Big pieces of paper. Markers, pencils, crayons.	Lay out the paper and markers on the floor in a big area.
Information about the children's farms and yards.	Station parents throughout the area.

Procedure:
• Discuss safe and unsafe play areas after reading *Chemical Safety with Mic Safety Mouse.*
• Using Mic's Maze and the Mic story booklet map, help each child make a map of his/her home or farm site. Ask parents for input, and if at all possible, their help, for this mapping activity.
• Have the children mark the safe and unsafe play areas. They can use big red Xs and green check marks, draw chemical hazard symbols, or they can think of some other way to show safe and unsafe play spaces.

Kids' Activity Sheet #2 cont.

Hazard symbols application activities

Links to curriculum and/or life:
Health and Life Skills
Children will use what they have learned about safety around chemicals to determine where and how to play safely in their particular living spaces. Their learning will be evident in how they mark the safe and unsafe spaces on a map of their farm (or yard and street, if they live in town).

Social Studies
This activity uses orienteering, mapping, and critical thinking skills. (Be aware of the children's limitations; they may not be expert cartographers.) Open-ended questions help children identify safe and unsafe locations and activities in their own home setting. Discuss why these may vary from child to child, and from home to home (because not every home/farm has the same lay out and/or hazards; ages of children differ; not every home has the same rules; etc.).

Math
Drawing maps to scale can be introduced to children in upper elementary grades.

Language Arts
This mapping activity encourages unlimited discussion, promotes listening, explaining, and other communication skills, and builds vocabulary.

Kids' Activity Sheet #2 cont.

Hazard symbols application activities

3. Obstacle course

Focus: to have children avoid hazardous products and sites around a simulated farm that they help create and set up.

to reinforce the need to wash hands before handling or eating food, and initiate discussions about healthy food choices.

You will need:	Set up:
A large space (e.g. gymnasium or outdoors).	Designate a safe play area and set out the toys
Protective gear (goggles, face masks, respirators; plastic aprons, gloves, disposable coveralls, etc.); chemical shed (a big box with a door cut in it); fuel tanks, trucks and tractors to fuel up; sprayers; clean empty milk jugs with hazard stickers on them; animal puppets; trikes/bikes; balls, other toys.	Set up a farm, with safe and unsafe play areas: bike/trike, house, garage, barn, fuel tanks, a road, fenced pond, a sprayer, a sprayed field, implements, animals, etc..
Soap & water or wet soapy washcloth; a snack; garbage bag.	Lay out snack food, container(s) for snack, washing-up equipment, garbage bag, etc.
Phones; *911 HELP* sheets.	Hand out phones, with attached *911 HELP* sheets.
Glo Germ equipment - See Activity Sheet #4, activity 4 (i.e. "Spreading…" p. 21).	Lay out the *Glo Germ* kit and necessary wash-up materials.

Procedure:

• Introduce the obstacle course concept, and discuss farm hazards. Have children help plot the course to avoid the places on the farm where hazardous spots and/or products are located, while, for example, taking lunch out to the farmer… or come up with another scenario.

• Children, in small groups, help set up the obstacle course by laying out the farm props to create their "farm."

• Mic joins the children as they set out on their course, to take lunch to the farmer (e.g. get the bike/trike out of garage, put on helmet). Mic gives suggestions and asks thoughtful questions as they *cross* the road, go *around* a sprayed field or the pond, etc. (Tip: Mic also helps decide who *gets to be* the farmer – females and males – driving the tractor).

• Along the way, going and coming back, children avoid all chemical (and other) hazards (by going under, around, beside, away from, etc.), and role-play chemical emergencies to practice *911 HELP* call procedures. Mic reminds children to protect their hands, ears, and the phone from contamination (by using gloves, rag, coat, or plastic bag, and disposing of contaminated items in the garbage bag).

• Children phone ahead to tell farmer they are coming, so (s)he can meet them. They will wait at an agreed-on safe point, away from the moving tractor, where the farmer can see them, stop the tractor, and join them.

• They all wash their hands before touching the food (using soapy washcloth in plastic bag or water from thermos with soap, and towel, etc), and eat their snacks.

• Children return to their starting point and map their course, placing appropriate hazard symbol stickers on their maps.

• Children then play with the farm toys in the safe play area on their "farm".

• The *Glo Germ* activity (Activity Sheet #4, p. 21) can be used now and/or later to recap how chemicals transfer and spread, and underline the importance of hand washing.

Kids' Activity Sheet #2 cont.

Hazard symbols application activities

Links to curriculum and/or life:
Health and Life Skills
Building the obstacle course gives the children practice making decisions in low-risk group settings. By applying what they know about safe and unsafe play spaces, they make responsible, informed choices to plot a safe route to deliver the lunch. Washing before eating, plus the follow-up *Glo Germ* activities, help reinforce what they have learned about the transfer of chemicals and germs when touching one's mouth or eating (i.e. absorption by skin contact and ingestion). In addition, the healthy snack can be used to initiate discussion about healthy food choices.

Social Studies and Math
Setting up, navigating, and then mapping the obstacle course uses mapping and orienteering skills. Drawing maps to scale can be introduced to children in upper elementary grades.

Phys Ed.
Children use their muscles and improve coordination and balance while moving, lifting, carrying, stretching, and walking, as well as increasing blood flow to their brains. Small group work provides social interaction and develops teamwork skills.

Kids' Activity Sheet #2 cont.

Hazard symbols application activities

4. The "To be safe around chemicals, I will . . ." memory game
Focus: to help young children create, understand, repeat, and remember a list of safety rules for avoiding chemicals and hazardous products.

You will need:	Set up:
One adult for every group of five children.	Arrange circle seating for groups of six.
Paper, pencils, markers, to record suggestions.	Set out paper, pencils, and markers for each group.

Procedures:
• With the whole group, start a list of safety suggestions.
• Familiarize children with the activity by initially leading the whole group in a "trial run." For example, the leader begins, "To be safe around chemicals I will…"
• This activity is similar to the travel game, "I'm going on a trip and I'm going to pack…" except in this case, the children (in small groups of five) begin with "To be safe around chemicals I will…" (Examples include: make sure I can recognize all the hazard symbols; never touch hazardous products; stay away from fields that have just been sprayed; make a map of our farm, marking safe and unsafe playing areas; tell an adult if I see a chemical spill, or chemical jugs lying about; remind adults to lock up all chemicals and hazardous products, so my little brother/sister doesn't touch or taste them; remind adults to wear protective gear, and to wash contaminated clothing separately.) Have each group make a list of their safety suggestions.
• Encourage the small groups to share their list of safety suggestions with the whole group, using role-play when possible.
• Ask children to illustrate, paint posters, or demonstrate, ways of being safe around chemicals.
• Post their creations in prominent places, and submit them for publication to the local newspapers, which often use safety messages as "fillers."

Links to curriculum and/or life:
Health and Life Skills
The children articulate, discuss, and record their ideas about safety around chemicals, explaining how they will make safe, informed, responsible choices regarding their own safety when avoiding hazardous products.

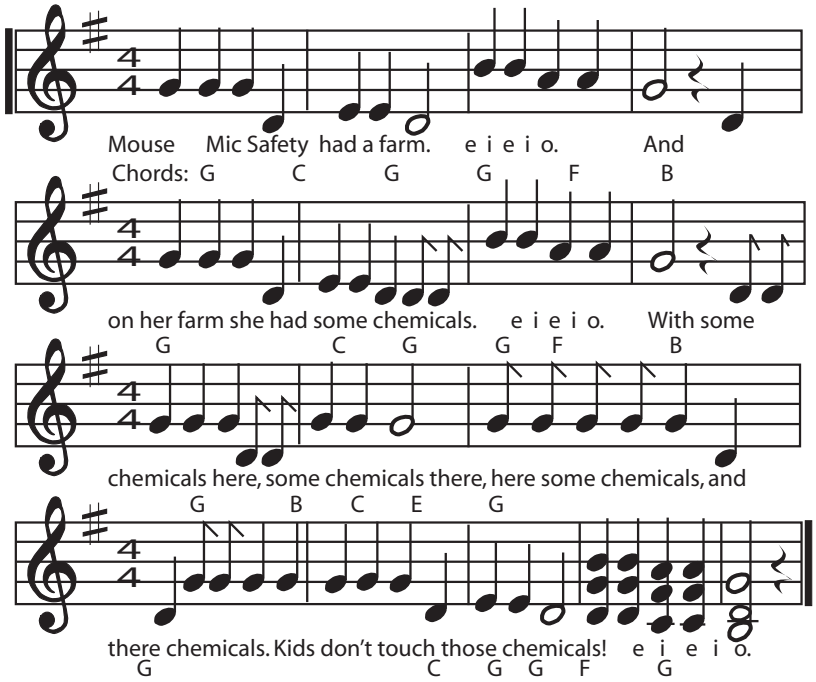
Language Arts
This activity expands vocabularies, and uses listening and memory skills. The children practice linking similar ideas in series within complete sentences, and recording their ideas.

Science
To put chemical use into a broader perspective, and encourage environmental stewardship, children can discuss the "responsible use" of chemicals, in urban and rural settings. On the farm, chemicals are used to grow food more efficiently. Chemicals are also used to get rid of weeds and insect pests, both on the farm and in town. Parks and bodies of water are sometimes sprayed for mosquito control.

Kids' Activity Sheet #2 cont.

Repetition of chemical safety concepts

5. Sing a safety song: ***Mouse Mic Safety had a farm*** (tune is much like "Old McDonald had a farm"). The lyrics repeat protective measures and safety concepts for the handling of chemicals and hazardous products.



For subsequent verses substitute *poisons*, *gloves*, *goggles*, etc or she *washed her hands.*
For example: Mouse Mic Safety had a farm, e-i-e-i-o. And on her farm…she had some *rubber gloves* (or *she washed her hands*), e-i-e-i-o. With *gloves* here, and *gloves* there (or *she washed her hands here, she washed…there*). Here (some *gloves/she washed*, etc.), there some *gloves*, everywhere some *gloves*. Don't forget to (put those *gloves* on/*wash those hands*), e-i-e-i-o.

Focus: to help young children repeat, and remember safety rules relating to toxic substances, so they can make responsible and informed choices to avoid contact with chemicals and hazardous products.

You will need:	**Set up:**
The words and music to Mic's safety song (see above); printed on large readable (illustrative) flip chart.	Set up flip chart for use when singing.
A piano or guitar and/or someone with the ability to lead singing. Rhythm instruments for children (if possible).	Have musical instrument(s) and/or leader ready to teach the song, and lead the singing. Set out rhythm instruments if using them.

Procedure:

- Put the words (and pictures for younger children) on flip chart ahead of time.
- Read through the words with the children before to trying to sing it. Most children will be familiar with the Old McDonald tune – if they aren't, play and/or sing it for them.
- Introduce and distribute rhythm instruments to children; trade/change them periodically.
- Repeat singing the song till the youngsters know it. Invite and add other lyrics/actions.
- As you sing the different/additional verses, children can act out the words (e.g. one child puts on gloves, another washes hands, etc.).

Kids' Activity Sheet #2 cont.

Repetition of chemical safety concepts

Links to curriculum and/or life:
Health and Life Skills
Mic's song stresses the need for the hazardous product-related safety gear, and fixes these preventive and protective concepts in the children's minds. It reminds them to avoid contact with those products, which in turn, helps reinforce Health and Life Skills learning outcomes (e.g. maintain health and promote safety for self and others). The activities also provide opportunities to practice life skills (e.g. work as a group, take turns, and get up in front of an audience).

Music
Children listen to, learn, and carry a tune, put words to music, exercise their vocal chords, and various other choral skills when singing Mic's song. Adding rhythm instruments adds aspects of rhythm and coordination. By creating their own additional verses, or other songs that reinforce safety concepts, children connect more safety messages to the melody. Dramatization of their compositions can transform their work into a musical production.

Language Arts
Like writing rudimentary poetry, creating other songs or lyrics for Mic's song, uses composition skills, and provides children with an opportunity to use new vocabulary. When involved in the process of crafting a song, children often tend to remember their contributions longer than those they simply memorize.

Follow-up and extension activities:
1. When children make up additional songs they articulate what they understand about safe behaviour around chemicals and hazardous products. If dramatized the songs can be turned into a performance that reminds an audience to think safety around hazardous substances.

2. Youngsters can use their knowledge about safety around chemicals to make up puppet plays by using the puppet patterns (Appendix H), or by adapting them to create popsicle-stick puppets.

3. With parental permission and help, upper elementary children could use disposable cameras to take photos showing chemical practices around their farms. They could also interview other farmers, about safe (and unsafe) practices. The photos can be projected on the wall, and combined with music, for a presentation at a community event (e.g. during Farm Safety Week in March).

4. Safety-related and/or environmental concepts can be addressed by reading various books, magazine or news articles. Discuss, for example, how the gardener spraying poisonous bug killer to get rid of aphids in his garden isn't wearing any protective gear (Godkin, *Ladybug Garden,* 1997; Grade 3 Gage Cornerstones Canadian Language Arts), and ask if that is a wise decision. This book can also be used as a starting point to explore the use of sprays versus using helpful insects like ladybugs to get rid of the aphids, and to raise questions about the effects of extensive spraying on plants, birds, honeybees, or other insects and wildlife, and the environment.

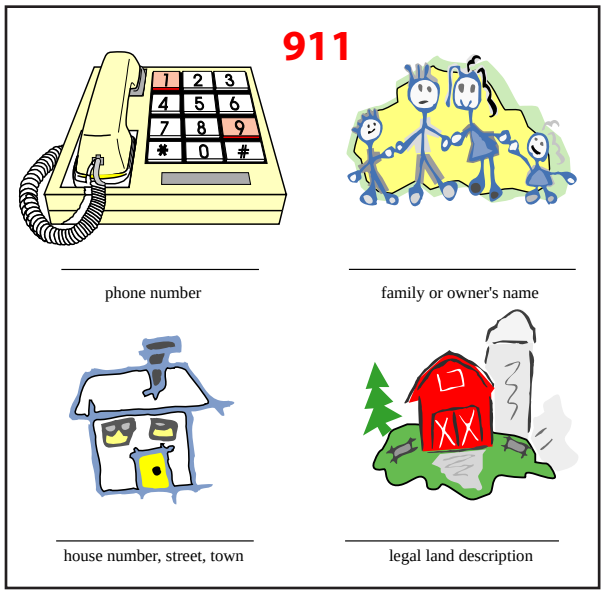
5. Alberta Poison Centre handouts (*Are There Poisons in your Home?* and *Poisoning: Do You Know What to Do?*) are available at no cost by calling (1-800-332-1414), and can be sent home with the children.

Kids' Activity Sheet #3

Calling for help: What to do in an emergency.

Using the "*911 HELP* Sheet"
Focus: to teach young children what to do in the event of a hazardous product/chemical-related incident or injury.

You will need:	Set up:
Toy or discarded phones (donated by phone stores).	Put phones throughout all the centres.
Copies of *911 HELP* Sheets (Appendix B), enough to send home for every phone (smaller/ shrunk versions for cell phones).	Attach completed *911 HELP* Sheets to each phone in each centre.
Several jugs of water, marked with hazard symbols.	Set jugs out in farm area, making it clear that you are using water in the jugs, not hazardous products.
Buckets, (clean) empty containers, spray bottles, protective gear (gloves, aprons, goggles, etc.).	Arrange equipment throughout farm area.
Parents, police, and/or fire fighters, etc.	Place adults among the children to help them fill out *911 HELP* sheets (Appendix B) to take home, to put beside each phone.



Procedure:
Familiarize adults with the instructions on the back of the *911 HELP* Sheet, so they can help children fill in the information on the front. (Make sure young children know the difference between the 6 and the 9.)
• Use permanent red marker, to colour the 9 and 1 on sheets, and all phones.
• Review how chemicals enter the body (Fact Sheet #4 p. 11; Activity Sheet #4, *Glo Germ* activity, p. 21). Remind children hand absorption is 1.3 and ear absorption is 5.4 times more than forearm absorption.
• Have the children role-play chemical spills and what to do. (e.g. someone trips over a jug, it splashes on his/her feet, legs, or hands; a contaminated hand touches a face, eye, food, etc.). Adults remind children to protect hands (with gloves, bag, or cloth) to prevent contamination of hands/phone/ears.
• Use adults as 911 operators to coach the children, through the prompts on the *911 HELP* Sheet (i.e. state phone number, name of the land owner, legal land description), and ask them to describe the nature of the incident, and identify the symbol and substance involved, so that the children will know what to do if/when they encounter an emergency involving chemicals or hazardous products. Adults remind the children to **stay on the phone until help arrives.**
• Children practice calling 911 using the following scenarios, and/or they suggest additional ones. What would you do if…you are putting your bike in the garage, and notice a child splashing in a puddle made by a gas can that has spilled on the floor? (Answer: Take the child out of the garage. Lock the door to keep anyone from going in with a lit cigarette. Tell an adult immediately, or if no adults are available, wash the child's hands in warm water with soap, and call 911. **Stay on the phone until help arrives**).

Calling for help: What to do in an emergency.

Procedure

What would you do if… scenarios cont.

… you are playing soccer on a hot day, when you notice small children filling squirt guns with liquid dripping from a parked sprayer tank? (Answer: Stop them. Take their guns away. Tell an adult, or if no adult is available, wash your and the children's hands with soap and water. Call 911. **Stay on the phone until help arrives**).

Links to curriculum and/or life:

Health and Life Skills

These *911 HELP* activities, if practiced repeatedly in different settings, teach children how to call for help, and could save a life. The activities also reinforce the importance of making informed, responsible, safe choices, so that the children will be less likely to experience emergencies that necessitate calling 911.

NOTE:

Make enough copies of the *911 HELP* sheets (see Appendix B) so that the children can **put one by *every* phone at home.** (When making copies, place the images on the front, and the instructions on the back.) Have parents and/or police or fire fighters help each child fill in his/her phone number, land location, and family name, on the *HELP* sheets. Laminate the sheets or put them into a zip-lock bag ***prior to*** sending them home with the children.

Follow-up and extension activities:

1. Rural children often care for younger siblings, so explore St John Ambulance courses (phone 1-800-665-7114; www.stjohn.ab.ca): *We Can Help* (7-10 years old); *What Every Babysitter Should Know* (over 11 years of age); *First Aid on the Farm* (12 years and up). The Canadian Federation of Agriculture, a number of years ago, published *Rural Kids, a supplement for babysitters in rural Canada*, which they might update if enough requests for it are received (contact: Kieran Green at 1-613-236-2633).

2. Discuss Aesop's fable of the "boy who cried wolf."

> A shepherd-boy, who tended his flock not far from a village, used to amuse himself at times by crying out "Wolf! Wolf!" Two or three times his trick succeeded. The whole village came running out to his assistance, where all they got in return was to be laughed at for their pains. Then one day a wolf really came. The boy cried out in earnest, but his neighbours, supposing him to be at his old sport, paid no heed to his cries, and the wolf devoured the sheep (R. Ash & B. Higton, 1990).

Ask the children what they think the moral of the fable is. (*Moral: Habitual liars are not believed even when they tell the truth.* Or, in other words, if you call wolf too often no one will believe you in a real crisis.) Mic says, "Only call 911 when it is a real emergency."

3. **Stress** that 911 is for **emergency use only**. Ask a police officer to explain to the children that it is an offence to call 911 if there is no emergency, and the penalties for calling 911 as a prank.

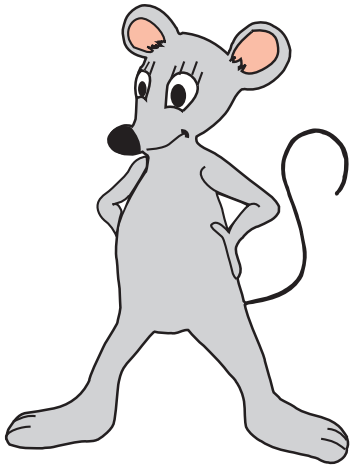
Kids' Activity Sheet #3 cont.

Calling for help: What to do in an emergency.

Follow-up and extension activities:

4. Have children role-play some of the following babysitting *what would you do if* scenarios, and/or have them suggest scenarios of their own.
You are on your first (rural) babysitting job, *what would you do if…*
… the phone rings, and when you get off the phone, the child has the lid from a cleaning fluid container in her/his mouth. You see the *warning poison* symbol on it. (Answer: take cleaner away from child, and place it where the child cannot get it. Since no adult is available, quickly wash child's mouth and hands, and my hands, with warm water and soap, and call 911. Have the 911 operator call the child's parents, while I stay on the phone until help arrives.)
… a child is holding/playing with a jug of weed killer? (Answer: Take the jug away from the child and place it where the child cannot get it. Wash the child's and my hands with warm water and soap, and call 911 immediately. Ask the operator to call the child's parents, if necessary, while I stay on the phone until help arrives.)
… a child is walking out into a field that has just been sprayed with pesticide? (Answer: Take the child into the house. Remove the child's clothes, and place him/her in the bathtub. Remove any of my clothes that are contaminated. Put the contaminated clothes into a garbage bag. Wash my hands, feet and legs with warm water and soap, and quickly bath the child. Call 911, and if necessary, ask the 911 operator to call the child's parents, while I stay on the phone until (s)he says I can hang up, or until help arrives.)
… a child has an almost empty bottle of liquor in his/her hand? (Answer: Take the bottle of liquor from the child, and place it where the child cannot get it. Call 911. Ask the operator to call the child's parents, while I stay on the phone until (s)he tells me I can hang up or until help arrives.)
… a child is holding a bottle of "cow medicine" from out of the fridge to his/her mouth? (Answer: Take the bottle from the child, and place it where the child cannot get it. Wash the child's mouth out and call 911. Ask the 911 operator to call the child's parents, while I stay on the phone until help arrives.)

"...stay on the phone until help arrives."



Kids' Activity Sheet #4

Exposure awareness and protective gear activities

The following KFSP activities are designed to teach children to avoid exposure to, and contact with, toxic substances, thereby maintaining health and promoting safety for themselves and others. These activities (some of which may be similar to those used by farm safety day camps, Teaching Agricultural Safety to Kids/TASK, or Farm Safety 4 Just Kids) help children understand how chemicals and hazardous products can enter their bodies through inhalation, and by contact with eyes, mouth, or skin (see KFSP Fact/Resource Sheet #4, p. 11).

1. Vapours and fumes activity

Focus: to demonstrate how vapours or smells can burn and/or harm the eyes, nose, throat, and lungs when inhaled.

to stress the importance of staying away from harmful vapours.

You will need:	**Set up:**
Several onions.	Place onions on the table at child level.
A respirator. A disposable dust mask for each child.	Set out dust masks and respirator on the table.
Two bowls, a paring knife.	Place bowls on the table; keep knife in hand or in a safe place. (**Caution:** make sure children can't touch the knife.)

Procedure:

• Have children smell unpeeled onions. Explain that onion odours are not dangerous (but that chemical fumes are, and can have serious effects if inhaled).

• Peel and slice the onions at child level. Put peelings in one bowl, and onions in the other bowl. Have children inhale onion vapours. (Onion odour should be strong enough to sting eyes and make noses run.)

• Repeat inhalation wearing dust masks, and discuss inadequacy of the masks. Then let child smell the onions while wearing the respirator. Explain that adults working with toxic substances should wear NIOSH-approved face gear to filter out harmful vapours and airborne particles.

Links to curriculum and/or life:

Science

If children have done science experiments, draw parallels to the vapours created during some science experiment (or conduct one if they have no experiment experiences). Point out that combining some household cleaners is dangerous (e.g. bleach and ammonia) because it creates noxious gases. Talk about how smells make our eyes, noses, throats, and lungs sting. Relate this to cleaners, paint thinners, and bug sprays that carry warnings indicating they must only be used in well-ventilated areas. **Note:** Discuss whether dust masks provide adequate protection from inhaling chemicals. (Did dust masks even filter out the onion odour completely?) Stress that when cleaning up mice droppings and/or nests, working with chemicals and toxic products, or working in dusty environments, children should keep away, and adults must wear NIOSH-approved masks and respirators.

Kids' Activity Sheet #4 cont.

Exposure awareness and protective gear activities

2. Air particles activity
Focus: to demonstrate how chemical particles can be airborne, making it necessary for children to avoid them and for adults to wear NIOSH-approved protective breathing gear.

You will need:	Set up:
A respirator, disposable dust masks, goggles, gloves, and aprons.	Lay out dust masks, respirator, goggles, gloves and aprons.
Bubble-blowing liquid and blowers; hole-punch circles or confetti; flour, cornstarch.	If indoors, set out bubble-blowing materials, and confetti and/or other substances on the table, before children arrive.
A windy day (outside), or a fan (inside).	Place materials on a table. If indoors, set up a fan (unplugged) facing the materials on the table.

Procedure:
• Have children put on protective gear, and stand about a metre behind/away from the table.
• If indoors, direct the fan towards the table, away from children. Sprinkle confetti or powdery substances on the table and watch how far the fan blows it. Have children blow bubbles (i.e. their chemicals) and watch the fan blow them away. Compare both results to sprayed chemicals drifting on the wind. **Caution:** Always direct the fan (or wind) away from the children, to prevent inhalation. Explain that masks and respirators must be NIOSH-approved to provide proper lung protection.
• If outdoors, place children wearing protective gear, upwind from the table. Sprinkle confetti or powdery substances on the table, and watch the wind blow it away. Have children blow bubbles (i.e. their chemicals) and watch the wind carry them away. Compare both results to sprayed chemicals drifting on the wind. Explain that masks and respirators must be NIOSH-approved to provide proper lung protection.
• Have the children wear protective gear when helping clean up (i.e. adult protection from the "chemicals").

⇐ wind direction

Kids here.

Links to curriculum and/or life:
Stress that only adults should be handling chemicals, and that because of drift, children should keep away when chemicals are being used. Talk about and/or role-play how to avoid chemicals/ hazardous products that might be in the air or blown by the wind when farmers are spraying a field. Suggestions may include staying in the house, going to school or to town, or visiting a friend. Remind children that before going outside when someone is spraying the fields they should check with an adult.

Kids' Activity Sheet #4 cont.

Exposure awareness and protective gear activities

3. Mist/spray activity

Focus: to demonstrate how the mist from sprayed chemicals can drift to areas other than those intended, and be unintentionally inhaled, or come into contact with skin.

You will need:	**Set up:**
Protective breathing gear, rubber gloves and boots, aprons or coveralls, and goggles.	Set out the protective gear.
Containers, funnels, (clean) spray bottles, water, food colours, newspapers.	Place water, containers, and food colours on a table covered with newspapers (outdoors if possible, and a windy day is preferable).
Plants.	Set the plants out on the floor/ground (on newspapers).
Fan to blow the mist like a wind, or a windy day.	Set fan (unplugged until actual use) on table.

Procedure:

• Children assume adult roles by putting on protective gear before adding food colour to water (i.e. before mixing their chemicals.

• Children fill the spray bottles and spray the plants (akin to spraying a field). Notice how the water (their chemicals) gets on the paper, their gloves, pants, boots, masks, etc. Demonstrate how much further the spray goes when the fan is blowing on it.

• Also have the children touch their faces and/or scratch their heads. Discuss how toxic substances can get on their scalps, faces, mouths, or ears.

• Discuss and demonstrate how an adult can take off gloves without touching them with his/her bare finger, and then washes his/her hands, so that s(he) can scratch an itchy head, or eat with uncontaminated hands.

Links to curriculum and/or life:

Health and Life Skills

Children can see how mist or spray drifts onto them when they are spraying the plants, and understand how this can happen when farmers are spraying fields.

Kids' Activity Sheet #4 cont.

Exposure awareness and protective gear activities

4. Spreading/transferring chemical residue activity

Focus: to demonstrate how chemical residue can be transferred from hands to face; to clothes; from one person to another (by hugging or handshakes); to food; doorknobs; toilets; etc.

You will need:	**Set up:**
Glo Germ oil and powder; paper towels; soap; apple; drinking glass; door knobs; light switch; sink or wash basin.	Acquire and set out *Glow Germ* oil or powder, applying some to your hands, to counter, various other spots, before children arrive.
Ultraviolet (UV) light (Appendix I provides info for *Glo Germ* kit and light source).	Set out UV light.

Procedure:

• Apply a few drops of *Glo Germ* oil or powder (invisible in ordinary light) to your hands and the counter. Touch your face, the doorknob, an apple, etc. before children arrive.

• Shake hands with children as they arrive.

• Turn on the UV light to show how *Glo Germ* transferred from your hands to the children, to the above items, and to the sink when washing hands. And show them how hard it is to get the "chemical" (i.e. *Glo Germ*) out of the skin pores and wrinkles in your hands.

Links to curriculum and/or life:

Health and Life Skills

Have children, wearing surgical or rubber gloves, clean up a classroom "spill" of *Glo Germ* and the contaminated areas, so that they can see how easily chemicals (and/or germs) spread. Check effectiveness of clean-up with UV light. Repeat as often as necessary until counters, doorknob, light switch, drinking glass, and apple are clean. Note how hard it is to get the sink, the apple, and/or contaminated hands clean. Discuss how and where similar transfers could happen when in contact with chemicals (e.g. touching one's face; eating food out in the field; using the bathroom; etc.).

Kids' Activity Sheet #4 cont.

Exposure awareness and protective gear activities

5. Clothes-washing activity

Focus: to demonstrate how washing contaminated clothes in the same load with other household items can contaminate everything in the washer. This activity shows children (especially those who have assumed some laundry duties) the importance of not washing family laundry with chemically-contaminated clothing, and demonstrates the importance of running a whole cycle with only hot water and detergent, following a contaminated load.

You will need:	Set up
Garbage bag, disposable coveralls (or facsimile), rubber gloves.	Set out garbage bag, coveralls, rubber gloves.
Two clear jars, paper towel, soap, hot water. Four small pieces of white fabric, black pepper, chili powder. Two large bowls, warm water.	Put jars, soap, water, paper towels on a table. Lay out fabric; set out pepper and chili powder. Put warm water into the large bowls.

Procedure:

• To demonstrate the proper disposal of contaminated coveralls (as seen in Mic's booklet), wear rubber gloves to stuff coveralls into garbage bag. Carefully remove rubber gloves, drop them into the bag, and close it tightly. Put it in the garbage. Wash hands thoroughly with soap and hot water.

• To demonstrate the need to wash contaminated clothing separately, put on gloves, and dampen two pieces of fabric. Sprinkle one piece with black pepper, the other with chili powder. (These are the "chemicals" that have contaminated your clothing.)

• Still wearing gloves, wash the contaminated fabrics by hand in separate bowls. Remove the fabrics and pour the water into separate jars. Note how the water looks. Return water to the bowls, and wash the second pieces of (uncontaminated) fabric in the same water. Remove the fabrics and check to see if any of the particles transferred to the second pieces. Pour water back into the jars. Note what the water looks like after washing the fabrics. What residues are in the water? In the bowls? And what has transferred to the clean fabrics during the washing process?

Links to curriculum and/or life:

Health and life skills

Children will see how chemical particles/residue can transfer from contaminated clothes to other clothes, the washer, and/or the dryer. Talk about transfer of chemicals and contamination of washer and dryer. Point out that contaminated clothes are best dried on a clothesline to prevent contaminating the dryer. Draw parallels to the *Glo Germ* activities. Older children who have assumed some laundry duties can apply this knowledge to avoid contamination of their clothes when doing the laundry. All children can remind their parents to launder chemically contaminated clothes separately, because these practices affect the whole family's health and safety.

Kid's Activity Sheet #4 cont.

Exposure awareness and protective gear activities

6. *Look-alike* substance activity
Focus: to demonstrate how much safe and unsafe substances can look alike, and how difficult it is to tell the difference between them.

to stress that children must never touch, taste, or drink from unmarked jars or bottles they find in the yard or farm buildings, or from containers bearing hazard symbols.

You will need:	**Set up:**
Protective gear (gloves, goggles, masks, aprons); hazard symbol stickers; see-through plastic containers with tightly sealing lids; hot glue gun.	Before the children arrive put out numbered clear plastic containers. Caution: Do NOT use glass. Wear protective gear when handling chemicals.
Rock salt or course pickling salt, and granular fertilizer in clear sealed containers.	
KoolAid, Gatorade, water with food colouring, and window cleaner in clear sealed containers.	
Pepsi or Coke, and Roundup in clear sealed containers.	
Maple syrup, and motor oil in clear sealed containers.	Lay out photocopied sheets (Appendix J) to use when identifying substances as safe (S) or unsafe (U).
Strawberry pancake syrup, and transmission fluid in clear sealed containers.	
Water or cooking oil - and turpentine in clear sealed containers.	Limit substances to 3-4 for younger children.
Phones and *911 HELP* sheets.	Set phones out to practice calling 911.

Procedure:
• **Before children arrive,** put equal amounts of substances into clear plastic numbered containers, and make a list of what is in each container. Close and seal containers using a hot glue gun, and put the appropriate hazard symbol on container bottoms.
• Have children (wearing gloves) examine the substances in the containers, and circle "S" if they think it's safe, or "U" for unsafe, beside the numbers listed on photocopied sheet (Appendix J e.g. 1. S U; 2. S U). Older children can also write down what they think the substance is.
• Check the accuracy of their observations, and tell them what each substance is. Point out the hidden hazard symbols on the bottoms of the harmful substances when comparing the "look-alikes." Talk about how hard it is to tell if a substance is safe or harmful by just *looking* at it.
• Mix up the order of the containers. Have children also wear protective gear to sort/group the containers (by memory) into safe and unsafe.
• Role-play calling 911 again, making sure they follow the calling procedures for toxic substance emergencies, protecting their hands and ears, and the phone, from contamination.

Links to curriculum and/or life:
Health and Life Skills
These *look-alike* activities make children aware of how (harmless-looking) substances encountered on the farm can be dangerous if they are ingested or come into contact with skin. The look-alike examples in this activity reinforce that in addition to avoiding containers bearing hazard symbols, children should also avoid contact with unmarked/unknown substances they may encounter around the farm. The role-play activity reviews how to call 911 for an emergency involving toxic substances.

Kid's Activity Sheet #4 cont.

Exposure awareness and protective gear activities

Follow-up and extension activities

1. Repeatedly review the hazard symbols and the signal words and their frames, using various methods (stickers, games such as: Memory, Snap, Lotto, Bingo, bottle bowling, etc.). Have the children compile and illustrate hazardous product lists, drawing and/or finding pictures or labels of products with potentially harmful vapours and fumes (oven cleaners, paint thinners, some glues and paints, pesticides, etc. see Appendix D). Post their pictorial lists where everyone can see them.

2. Have children role-play the following *what would you do if…* scenarios, or create their own.
What would you do if…
… you were playing in the yard and found an empty chemical jug? (Answer: Do not touch it and go tell an adult.)
… someone was spraying a field close to the yard? (Answer: Stay in the house, go to town, etc.)
… you saw a child run to hug someone who had just finished spraying a field or garden weeds? (Answer: Ask the child to wait until the adult has showered and changed clothes, and/or remind the adult to shower and change clothes first.)
… a child asks someone who is working with chemicals to fix a toy, open a container of juice, zip up the child's jacket? (Answer: Ask the child to stay away and wait until the adult has washed his/her hands with soap and hot water, and/or remind the adult to wash his/her hands before touching the toy, juice, or zipper.)

3. Play *Shout it out* #1. The leader (holding up picture of fridge) asks, "Where is the food?" and the children call out "in the fridge!" The leader repeats this question while holding up pictures of the cupboard, a dinner table, etc. The leader asks "Is there food in here?" while holding up pictures of garage shelves, oil storage shed, truck box, etc. The leader holds up different pictures of foods, chemicals, and hazardous products asking, "Is this food?" (Children like to shout out answers because they are normally not allowed to do so, and often have to quietly hold up their hands before answering.) This activity can also be done in teams. Adapt this activity by using more complex pictures and questions for older children.

4. *Shout it out* #2 is a variation of the above activity. The leader (or an appointed child) holds up one of the four hazard symbols, and the children (in chorus) call out whether it is poison, corrosive, etc. This is made more challenging when the three signal words (danger, warning, caution) are added in combination with their accompanying frames (hexagon, diamond, and triangle), because then children must also identify whether it is "danger poison", "warning poison", and so on. (See Fact/Resource Sheet #1, p. 3 and Appendix C). This activity can also be done in teams. (Be warned that it can get quite noisy, so clearly state your expectations ahead of time – or opt for quieter activities.)

5. Encourage the children to make posters, pictures, cartoons, collages, dioramas, or any other representation of a hazardous product-related safety message that they want to convey. As a group, make sure that all of their messages are accurate and safe, by asking if it is "safe?" "true?" "dangerous?" etc. before publishing their creations (e.g. school newsletters, local papers). Display their posters in prominent places throughout the community (public library, community hall, recreation centres, post office bulletin boards) to remind adults handling chemicals to wash hands before eating, to take off protective gear and/or clothing and wash or shower before hugging children, and to wash contaminated clothing separately, because all these adult behaviours affect children's safety and health.

Kid's Activity Sheet #4 cont.

Exposure awareness and protective gear activities

Follow-up and extension activities cont.

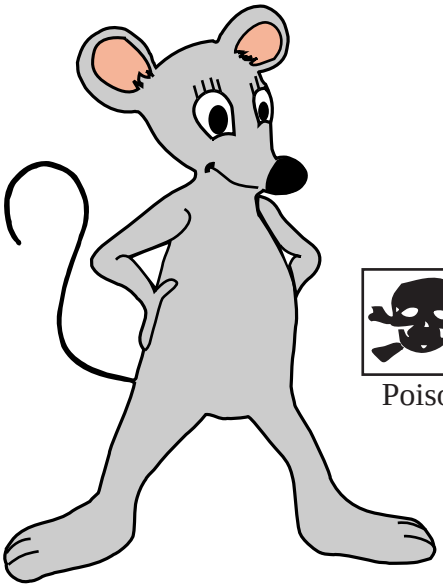
6. Have children list, illustrate, discuss, and role-play ways of avoiding exposure and contamination. This may include: staying away from the area and playing elsewhere; not touching containers with hazardous symbols; and telling an adult when they find spilled substances in play spaces. Children can also remind adults handling chemicals to wash hands before eating, to take off protective gear and/or clothing and wash or shower before hugging children, and to wash contaminated clothing separately, because all of these adult behaviours also affect children's safety and health.

7. Safety messages bear repeating over and over. They are often accepted as "fillers" in rural newspapers, especially during Farm Safety Week in March, so encourage children to submit their creations to local publications. **Caution:** Avoid contests, as they tend to validate only the "best" entries, while devaluing the others. The point of having kids make safety posters, signs, pictures, cartoons, etc. is safety, not competition.

APPENDICES

ON THE FARM

Chemical Safety with Mic Safety Mouse



Poison

Flammable

Explosive

Corrosive

Appendix A: Summary of Alberta farm fatalities (1976-2005)
Appendix B: *911 HELP* Sheet
Appendix C: Hazard symbols and frames for lid-toss and game cards
Appendix D: Lotto master sheets and cards
Appendix E: *BE SAFE* bingo cards, markers, and calling sheet
Appendix F: Bottle bowling scorecards
Appendix G: Stickers
Appendix H: Patterns and instructions for Mic Safety Mouse puppets
Appendix I: *Glo Germ* contact information
Appendix J: *Look-alike* substance activity

Appendix A:
ALBERTA FARM FATALITIES (1976-2005)

date	Total fatalities, including children	Child fatalities (0-17 years of age)
1976	27	
1977	30	
1978	25	
1979	25	
1980	28	
1981	32	
1982	27	
1983	27	
1984	25	
1985	29	4
1986	13	3
1987	18	6
1988	12	1
1989	13	0
1990	16	8
1991	15	2
1992	14	2
1993	22	7
1994	15	4
1995	12	2
1996	21	5
1997	17	4
1998	24	6
1999	17	2
2000	22	3
2001	18	5
2002	24	5
2003	14	1
2004	16	5
2005	19	3
totals	**592**	**77** (13% of total)

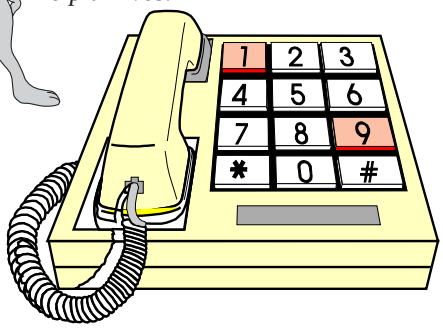
Note: In 2005, the three child fatalities were machine/machinery related.
The five in 2004 were due to:

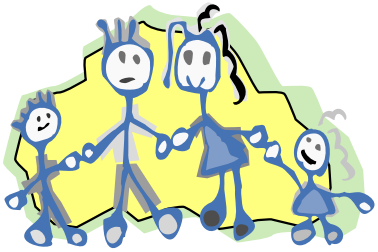
1 child dragged by horse
1 child driving an ATV collided with tractor, and run over
1 child riding in tractor bucket crushed
1 child in grain hopper
1 drowned in a dug-out.

Appendix B:

Mic says, "Stay on the phone until help arrives."

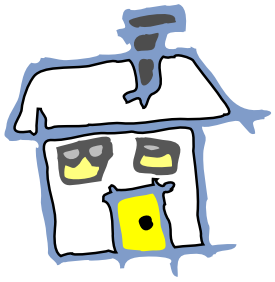
911





phone number

family or owner's name



house number, street, town

legal land description

cut line

***911 HELP* sheet instructions:**

- Fill in the details (phone number, name, address or legal land description) on *the 911 HELP* sheets.
- Highlight the 9 and 1 in red, on the 911 *HELP* sheets, as well as on every phone to which the child has access. (Young children sometimes confuse the 6 and 9, so if the 9 is highlighted it helps eliminate that possibility.)
- Help the child learn to read (and/or memorize) the numbers and letters of his or her address/legal land description.
- Once completed, tape the *911 HELP* sheet on or beside every phone the child has access to, including cell phones. If shrinking and attaching it to the cell phone is not possible, make sure the child always has easy access to a *911 HELP* sheet in numerous spots around the yard and farm, in case it is needed.
- Pretend, role-play, and practice calling 911 using a disconnected or toy phone often, so that the youngster remembers the following procedures:
  - Give your phone number, name of who owns the farm (the Call Centre can use this in locating the farm), and address (house number and street if in town, and the legal land description if in the country).
  - State what happened, and where. If a hazardous product is involved say what it is, or what symbol is on the container.
  - Describe the emergency (e.g. fire, fall, chemical spill, entanglement, equipment run-over, injury by animal, etc.)
- **STAY ON THE PHONE UNTIL HELP ARRIVES.** If you need to call parents etc. ask the 911 operator to make the call for you, so that you can stay on the phone with the operator until help arrives.

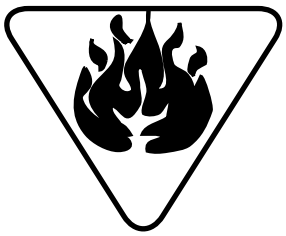
Appendix C:
Game Cards

DANGER
POISON

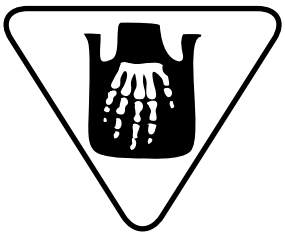
DANGER
FLAMMABLE

DANGER
CORROSIVE

CAUTION
POISON

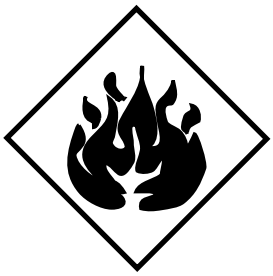


CAUTION
FLAMMABLE



CAUTION
CORROSIVE

WARNING
POISON



WARNING
FLAMMABLE

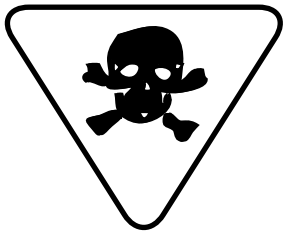
WARNING
CORROSIVE

Appendix C:
Game Cards

DANGER
POISON

DANGER
EXPLOSIVE

CORROSIVE



CAUTION
POISON

CAUTION
EXPLOSIVE

POISON

WARNING
POISON

WARNING
EXPLOSIVE

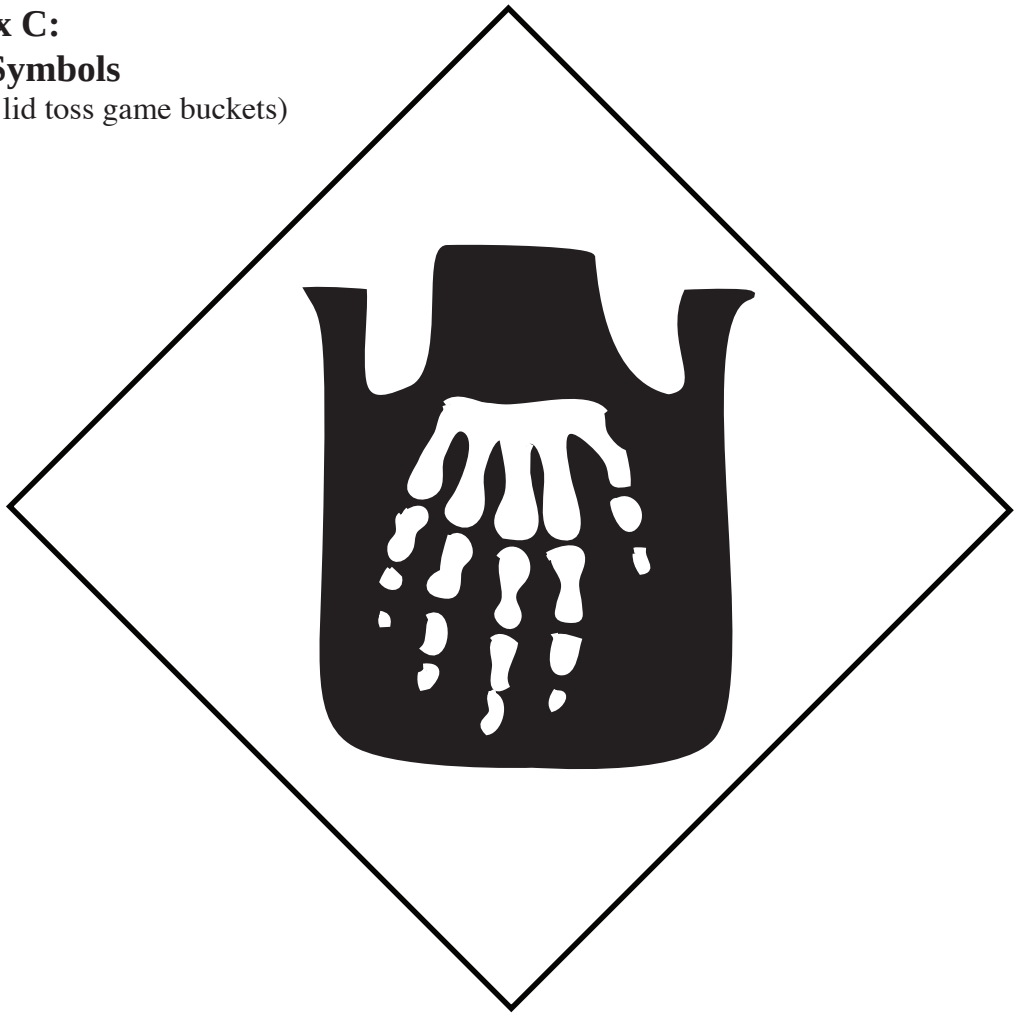
FLAMMABLE

Appendix C:
Game Cards

EXPLOSIVE	 **EXPLOSIVE**	**CORROSIVE**
POISON	**SAFE**	**FLAMMABLE**
SAFE		

Appendix C
Hazard Symbols
(for use on lid toss game buckets)

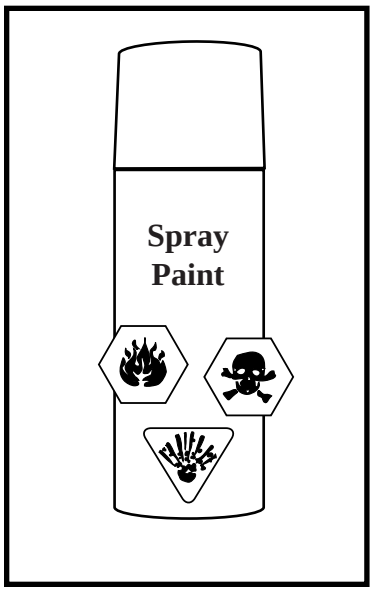
Appendix C:
Hazard Symbols
(for use on lid toss game buckets)

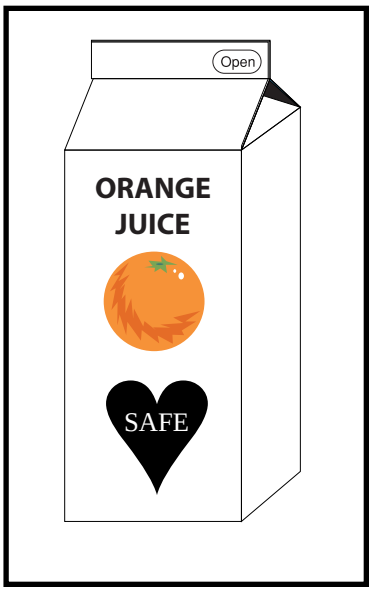


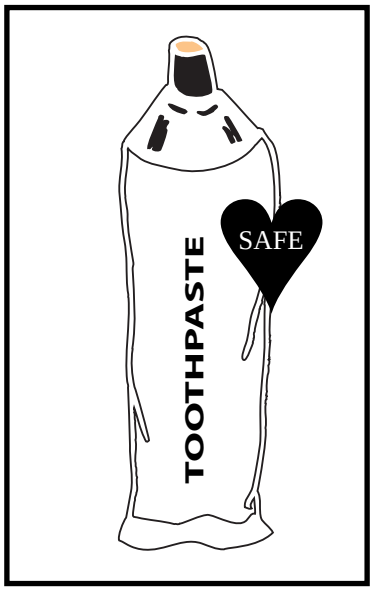
Appendix D: **Lotto Master Sheet** 1 Create as many as you need, but make each one different.

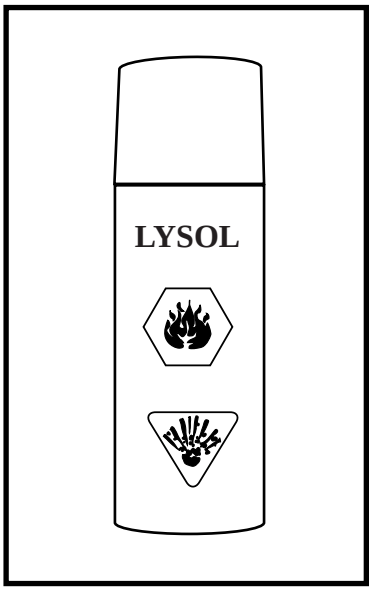
Appendix D: **Lotto Master Sheet** 2 Create as many as you need, but make each one different.

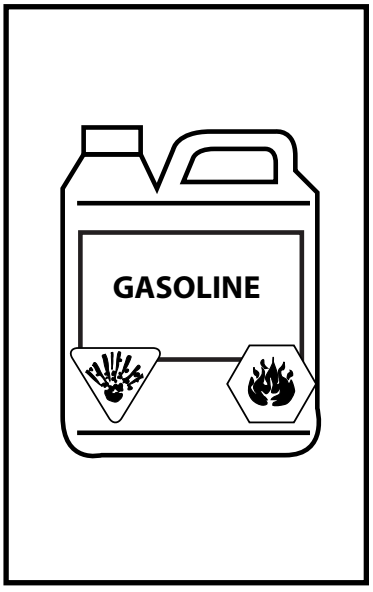
Appendix D: Lotto Playing Cards (photocopy, and cut into playing cards)



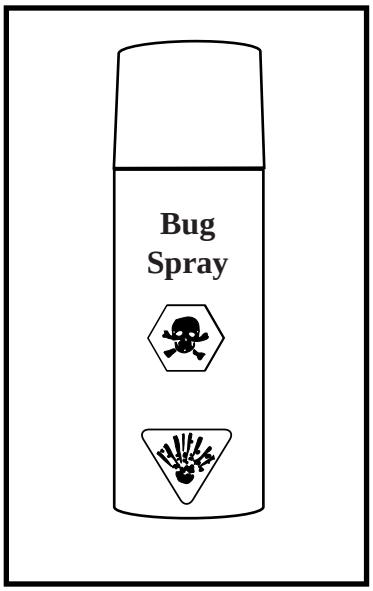


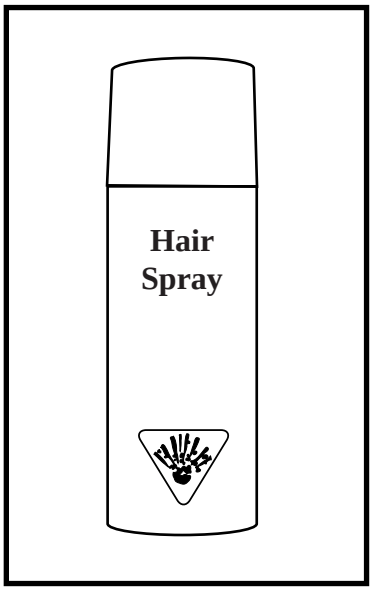


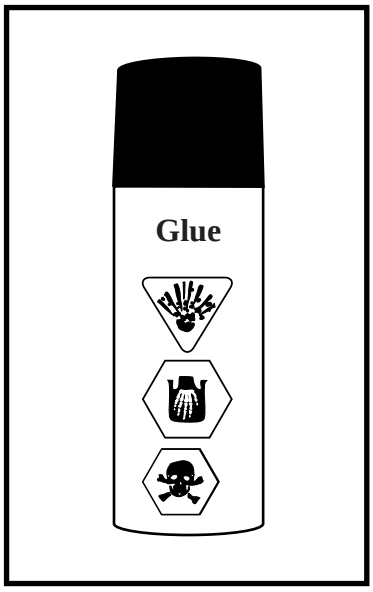




Appendix D: Lotto Playing Cards (photocopy, and cut into playing cards)







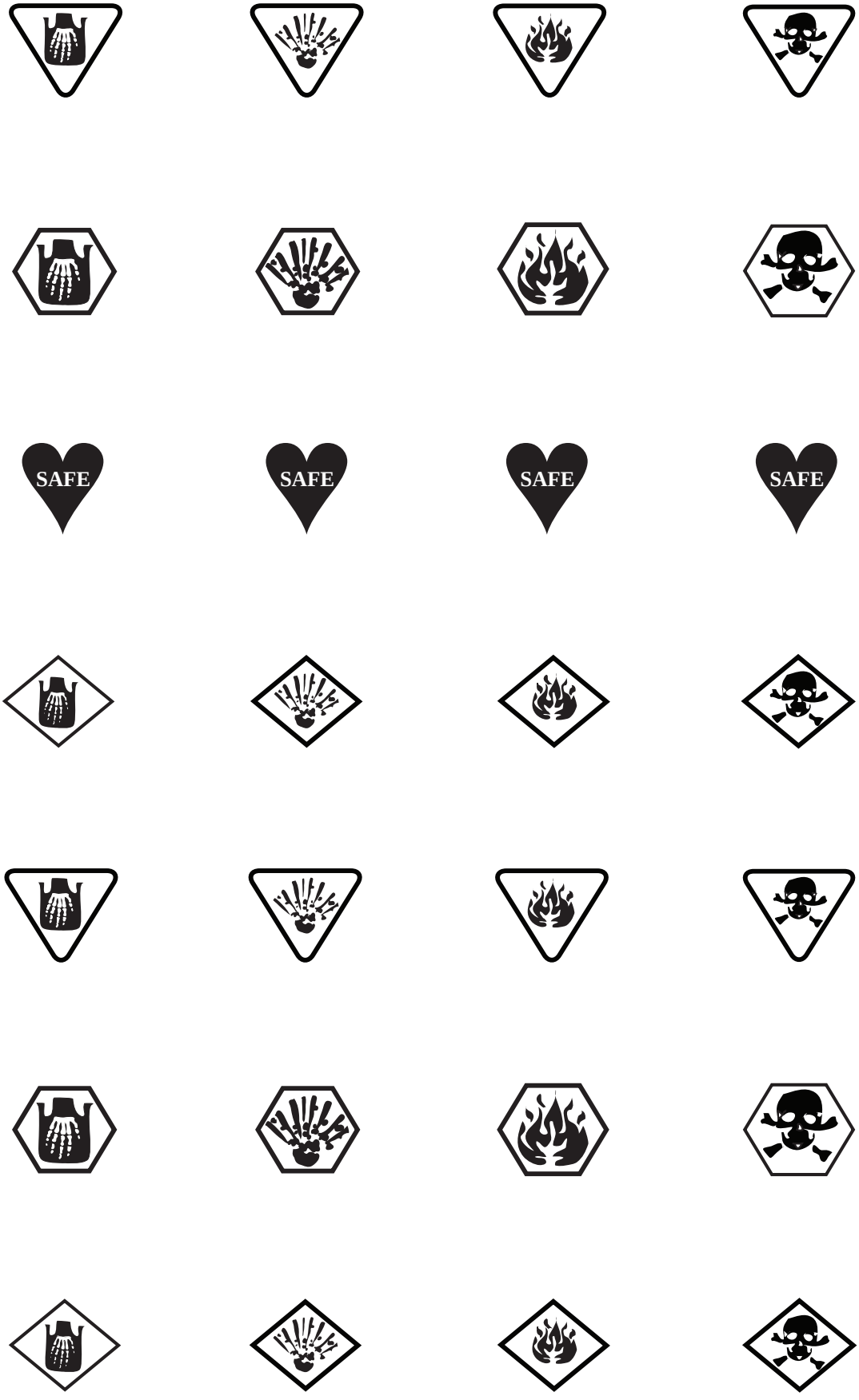
Appendix E: Optional *BE SAFE* Bingo Cards

Make as many as you need by varying the numbers in the squares of each card.

Danger Poison 	Warning Corrosive 	Caution Flammable 	Danger Explosive 	Warning Poison 
1	10	22	35	40
2	13	23	36	40
4	15	SAFE	37	43
7	17	26	38	44
8	19	29	39	48

Danger Poison 	Warning Corrosive 	Caution Flammable 	Danger Explosive 	Warning Poison 
		SAFE		

Appendix E: *BE SAFE* Bingo Markers



Appendix E:
***BE SAFE* Bingo Calling Sheet**

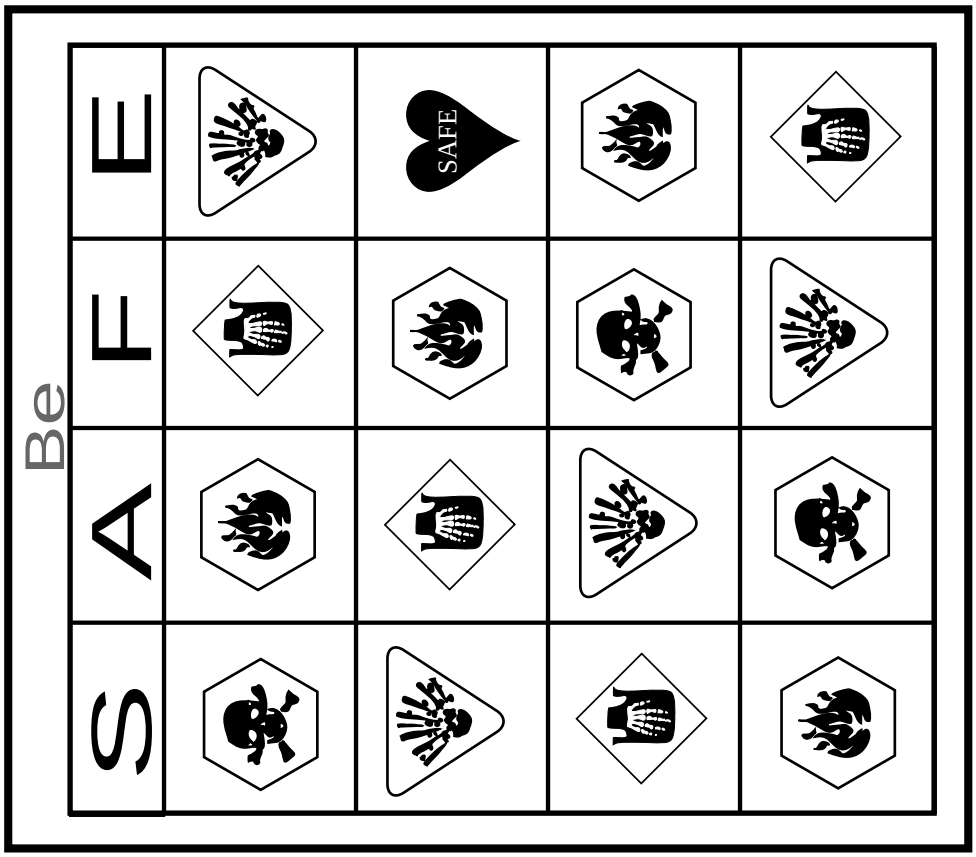
BE

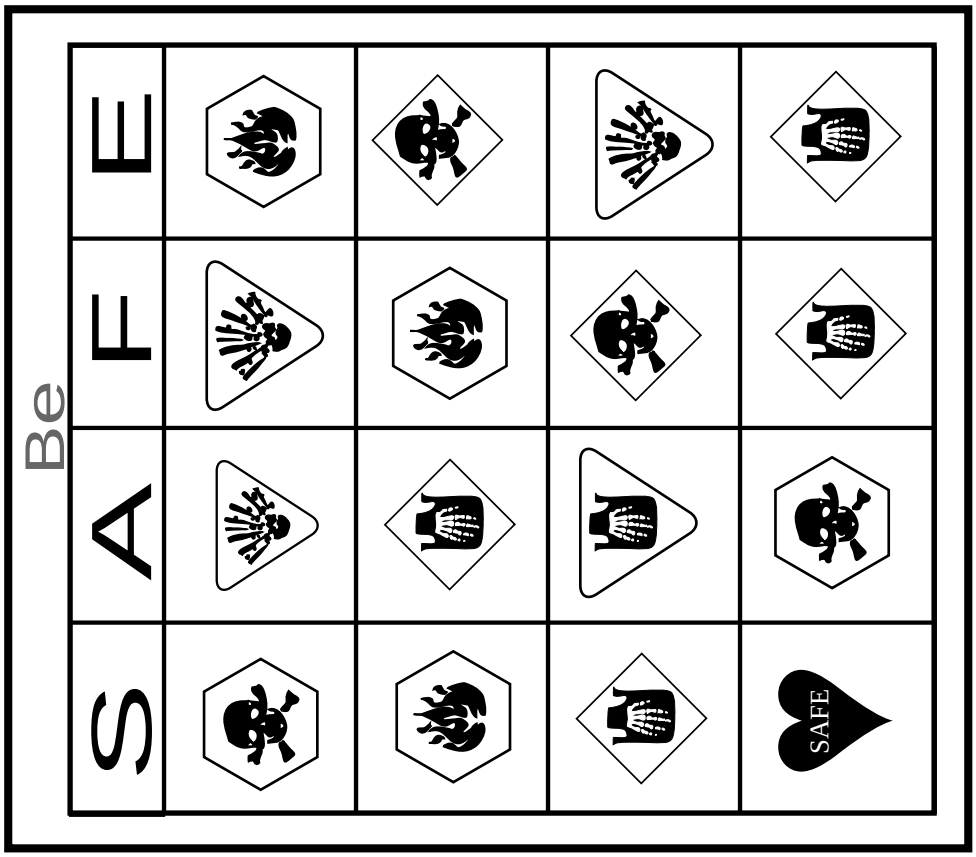
S A F E

poison danger 	flammable danger 	explosive danger 	corrosive danger 
poison warning 	flammable warning 	explosive warning 	corrosive warning 
poison caution 	flammable caution 	explosive caution 	corrosive caution 
corrosive danger 	explosive danger 	flammable danger 	poison danger 
corrosive warning 	explosive warning 	flammable warning 	poison warning 
corrosive caution 	explosive caution 	flammable caution 	poison caution 
flammable danger 	poison danger 	corrosive danger 	explosive danger 
flammable warning 	poison warning 	corrosive warning 	explosive warning 
flammable caution 	poison caution 	corrosive caution 	explosive caution 
explosive danger 	corrosive danger 	poison danger 	flammable danger 
explosive warning	corrosive warning	poison warning	flammable warning
explosive caution	corrosive caution	poison caution	flammable caution

Appendix E:

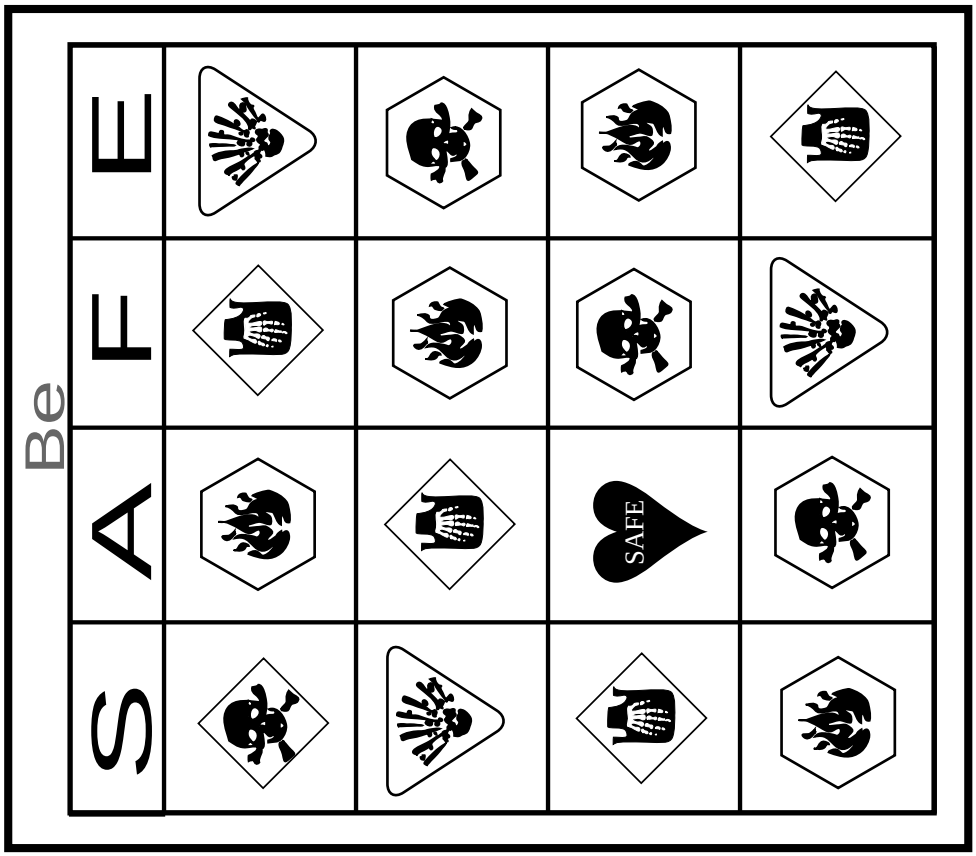
***BE SAFE* Bingo Cards.** Make as many as you need. Just alter each one enough so that no two will have ‘bingo’ at the same time.

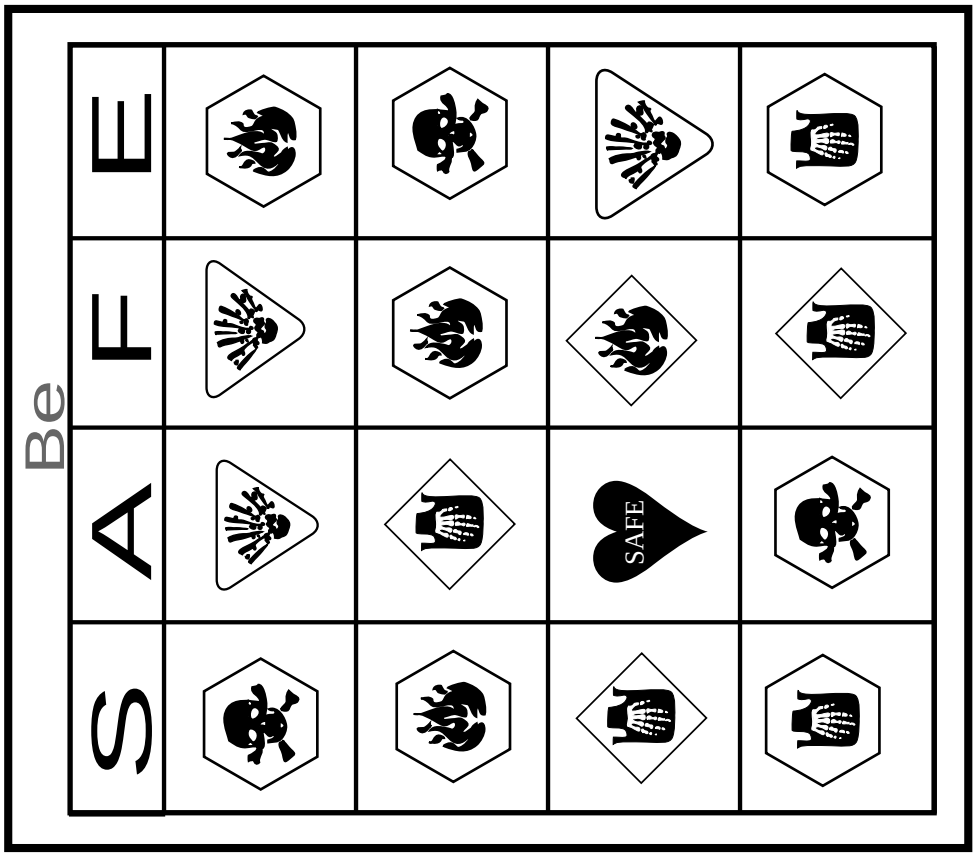




Appendix E: Cont.

BE SAFE **Bingo cards** Make as many as you need. Just alter each one enough so that no two will have 'bingo' at the same time.





Appendix F: Bottle Bowling Scorecards

Name	#1	#2	#3	#4	#5	TOTAL

Name	#1	#2	#3	#4	#5	TOTAL

Name	#1	#2	#3	#4	#5	TOTAL

Name	#1	#2	#3	#4	#5	TOTAL

Appendix G: Stickers (To create your own stickers, photocopy Appendix G onto Address Labels Avery 5160/8160.)












DANGER POISON

DANGER FLAMMABLE

DANGER CORROSIVE

WARNING POISON

WARNING FLAMMABLE

WARNING CORROSIVE

CAUTION POISON

CAUTION FLAMMABLE

CAUTION CORROSIVE


DANGER EXPLOSIVE

WARNING EXPLOSIVE

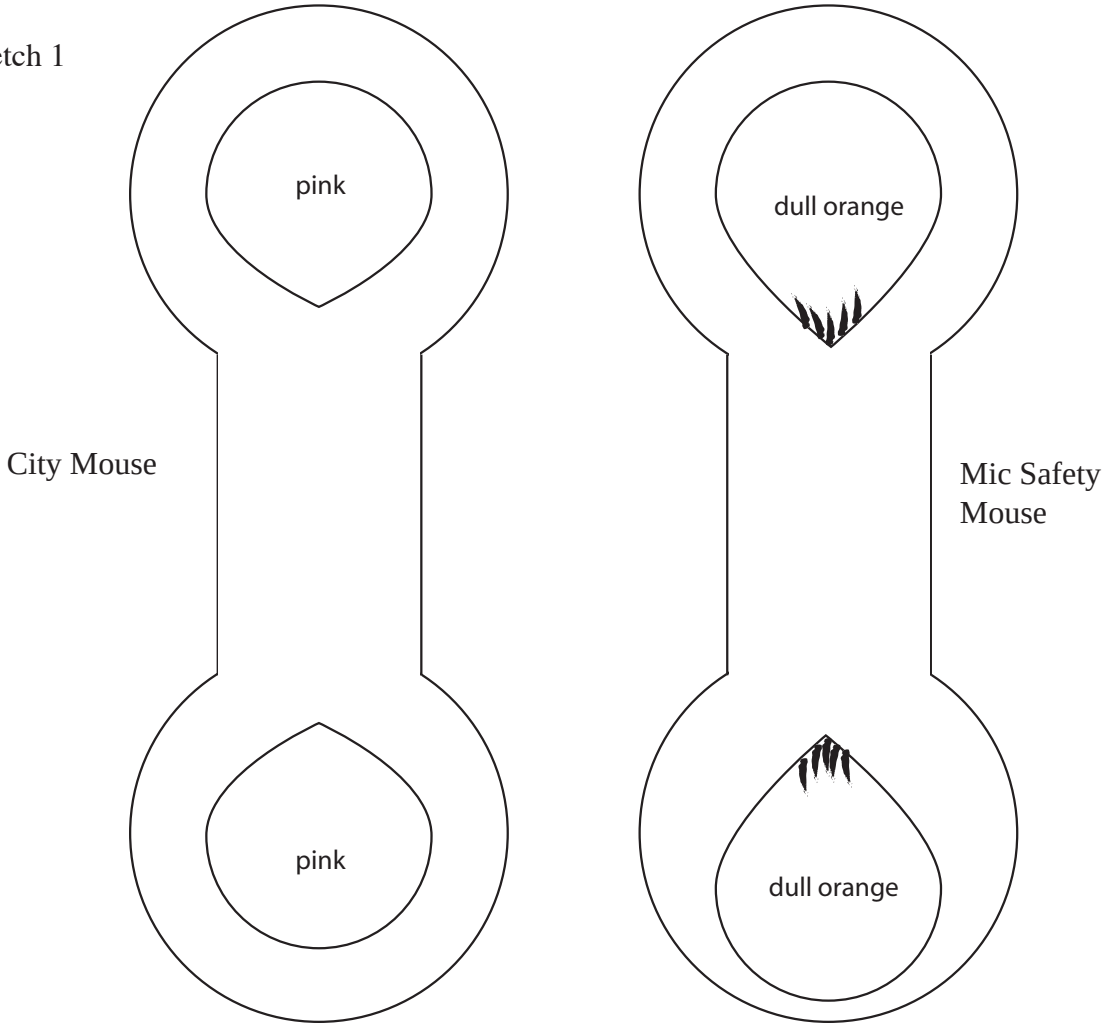
CAUTION EXPLOSIVE

Appendix H:
Patterns and Instructions for Mic Safety Mouse Puppets

Mic Safety Mouse puppet patterns and instructions

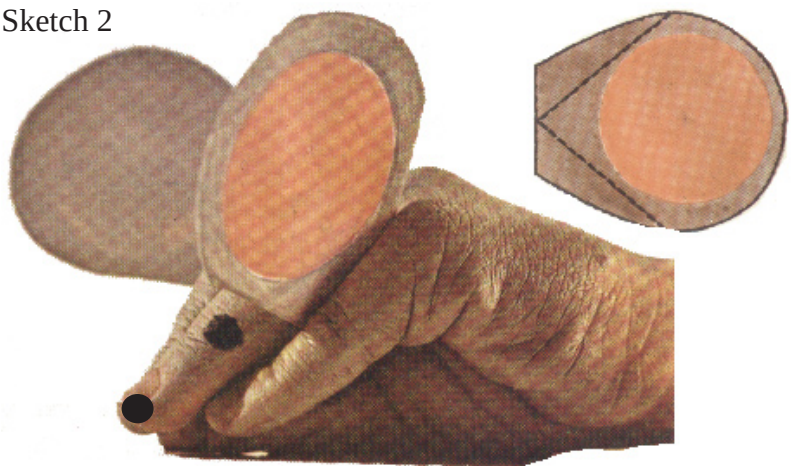
To create Mic Safety Mouse puppets, cut out two sets of mouse ears (Sketch 1) using fairly stiff paper or cardboard. Paint or colour them grey. Make City Mouse's round inner ear pink, and use a dull orange colour for Mic's hairy (jagged) inner ear.

Sketch 1



Let the paint or marker dry before slipping the ears under and between your fingers as shown in Sketch 2. Slip one ear between your forefinger and the second finger, and the other ear between your third/ring finger and little finger. Add eyes and a nose (see Sketch 2) using washable markers, or sticky paper. Give Mic eyelashes, and your mouse puppets are ready to act out Mic's safety story.

Sketch 2



Hint:
You can use your thumb and baby finger as front paws to pick up props as needed (e.g. to carry City Mouse's suitcase; hold a playing card) or to point to things (e.g. the yellow *spraying* sign).

Appendix I:
Glo Germ Contact Information

The *Glo Germ* simulated germs material (often used for hand-wash training) works well to demonstrate contamination upon contact with hazardous substances or chemical products. The source for this kit (which includes powder, oil, and a mini ultra violet light) is:

Glo Germ Co. Phone: 435 259 5931
P.O. Box 189,
Moab, Utah 84532 www.glogerm.com

Appendix J:
Look-alike Substance Activity

Circle the S if the substance looks "Safe."
Circle the U if the substance looks "Unsafe."
Fill in the blank if you know what the substance is.

1. S U _____ .

2. S U _____ .

3. S U _____.

4. S U _____.

5. S U _____.

6. S U _____.

7. S U _____.

8. S U _____.